Welcome!!!

To the second
UCSD TDLC Boot Camp in
The Temporal Dynamics of Learning
The Temporal Dynamics of Learning Center Goals

- Create a *Science of the Temporal Dynamics of Learning*
- Change educational *practice* based on sound science.
- Do this by creating a new collaborative research structure, the *network of networks*, to transform the practice of science.
What would a science of the Temporal Dynamics of Learning look like?

• We believe it means achieving an integrated understanding of the role of time and timing in learning, across multiple
  • *temporal and spatial scales,*
  • *brain systems,* and
  • *social systems.*
What are the components of a science of the Temporal Dynamics of Learning?

• How organisms adapt to their *input* (the temporal dynamics of the world)
• How organisms adapt their *outputs* (the temporal dynamics of action) appropriately to manipulate the world
• And how the brain in between accomplishes this (*the temporal dynamics of the brain*)
• But a science requires formalism (*the theory of the temporal dynamics of learning*)
The organization of TDLC: The “network of research networks”

SensoriMotor Network

Social Interaction Network

Interacting Memory Systems

Perceptual Expertise Network

Temporal Dynamics of Learning

2012 Bootcamp!!
Goals of Boot Camp

This is “Basic Training” -- we want you all to have a basic set of skills from the four research networks, as well as computational modeling, and our unique facility, the Motion Capture/Brain Dynamics facility.
Goals of Boot Camp

• We also want you to expand your horizons beyond Basic --
  – to Matlab! ;-)

• Seriously, the goal of the one week project is to give you a more in-depth experience in what we hope is a NEW area for you.

• We expect everyone to do a project.

• Yes, YOU!
Our Expectations

• This is also a place to meet and bond with students with similar interests.
• We expect you to work your <ahem> off.
• We expect you to stay late but still come in time for breakfast.
• We expect you to have a lot of fun!
The Schedule: Week 1

• Free breakfast! 8:30-9:00
• Lectures in AM until 12:15
• Free Lunch! Outside in the courtyard
• Afternoons: Practical labs: 1:30-5PM or 6PM or..?
• Dinner: on your own
• Evenings: Occasional tutorials (MEET HERE)
  – Linear algebra: TONIGHT 7:00-8:30PM
  – MATLAB: TOMORROW: 7:00-8:30PM
  Whatever you can get us to do…
The Schedule: Week 1

• Today: Interacting Memory Systems
• Tuesday: Social Interaction Network
• Wednesday: Sensorimotor Network
• Thursday: Modeling & Analysis
• Friday: Perceptual Expertise Network
• Saturday: MoCap/brain dynamics
• Sunday: The Zoo!
The Schedule: Week 2

- Free breakfast! 8:30-9:00
- Lectures in AM until 12:15
- Free Lunch! Outside in the courtyard
- Afternoons, Evenings, Nights:
  - Projects!
Lunchtime talks

• In order to get to know each other…
• Each student (there are 19 of you) will give a 10 minute talk at lunchtime.
• Three talks per lunch, starting tomorrow.
• This should take us through next Tuesday.
• We will do this in alphabetical order by last name!
Lunchtime talks will be...

- Informal
- Using a flip chart (paper and marker)
- About something *you* have done research-wise or project-wise (or thesis-wise, for some of you...), that you are proud of, or excited about or...
- Outside during lunch! Speak up! And Listen!
- Tightly timed...10 minutes!
Week long Projects: Details

• Logistically, we need roughly an equal number of students in each of the five or six areas.
• Hence, at the end of this week, we will have you express your preferences for areas and why.
• We will then assign you to one of the areas -- this should be outside of your “usual” activity.
• On Monday, you will get your area assignment, and you will get to choose among one or two (or sometimes three) possible projects.
• Projects are done in teams of 2-3 (or more, for MoCap)!
Week long Projects: Details

• The bad news: You don’t get to choose the area, but you get to express a preference.

• The project needs to be completed by Friday of week 2, because Saturday, you are expected to give a professionally done powerpoint presentation on it!

• We expect about a 30 minute talk -- $19/2.5 = \approx 8$ project presentations: about 4 hours plus lunch --

• We should be done by 2:15PM Saturday the 22nd.

• Then, PARTY AT MY HOUSE SATURDAY NIGHT 6:30PM-?! (I will make my famous cashew chili!)

• Bring your suit: We have a pool.
Points of contact

• General questions about anything:
  – Andrew Kovacevic (Ko-VA-che-Vich)
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