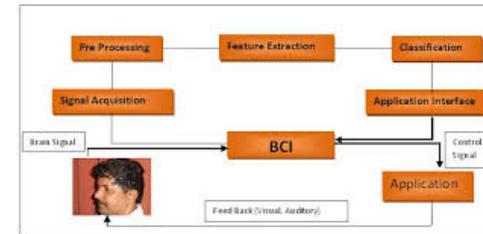
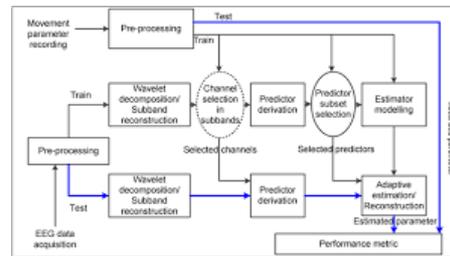
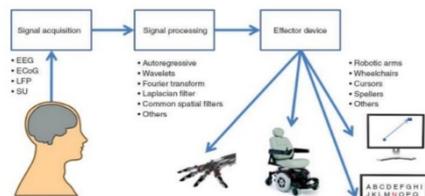
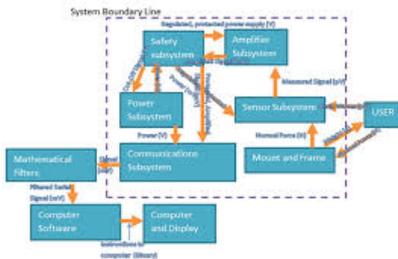
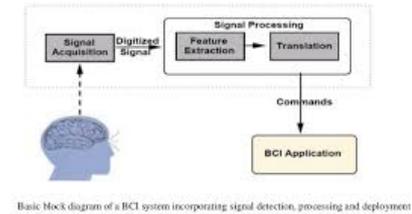
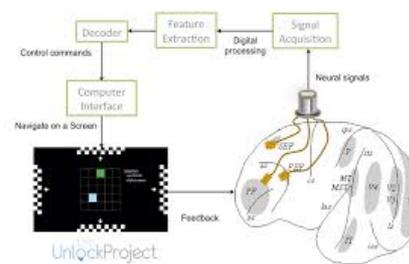
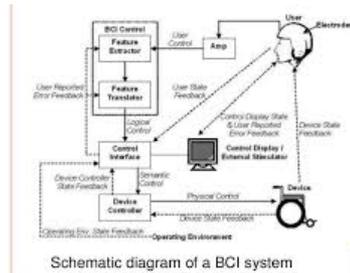
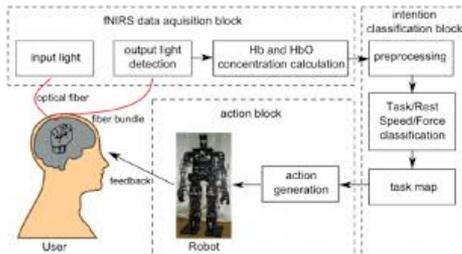
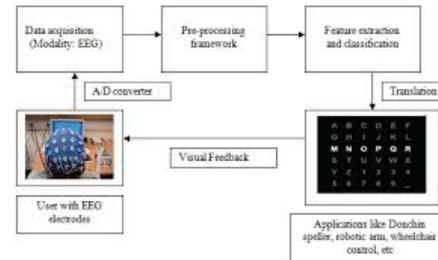
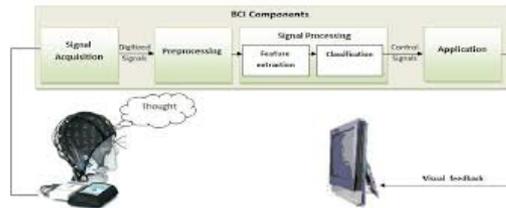
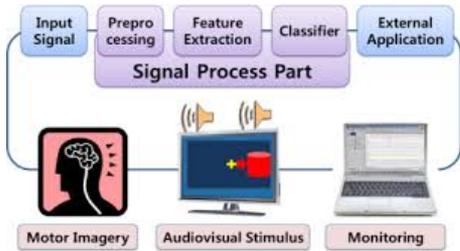


**Welcome and thank you
for participating today!**

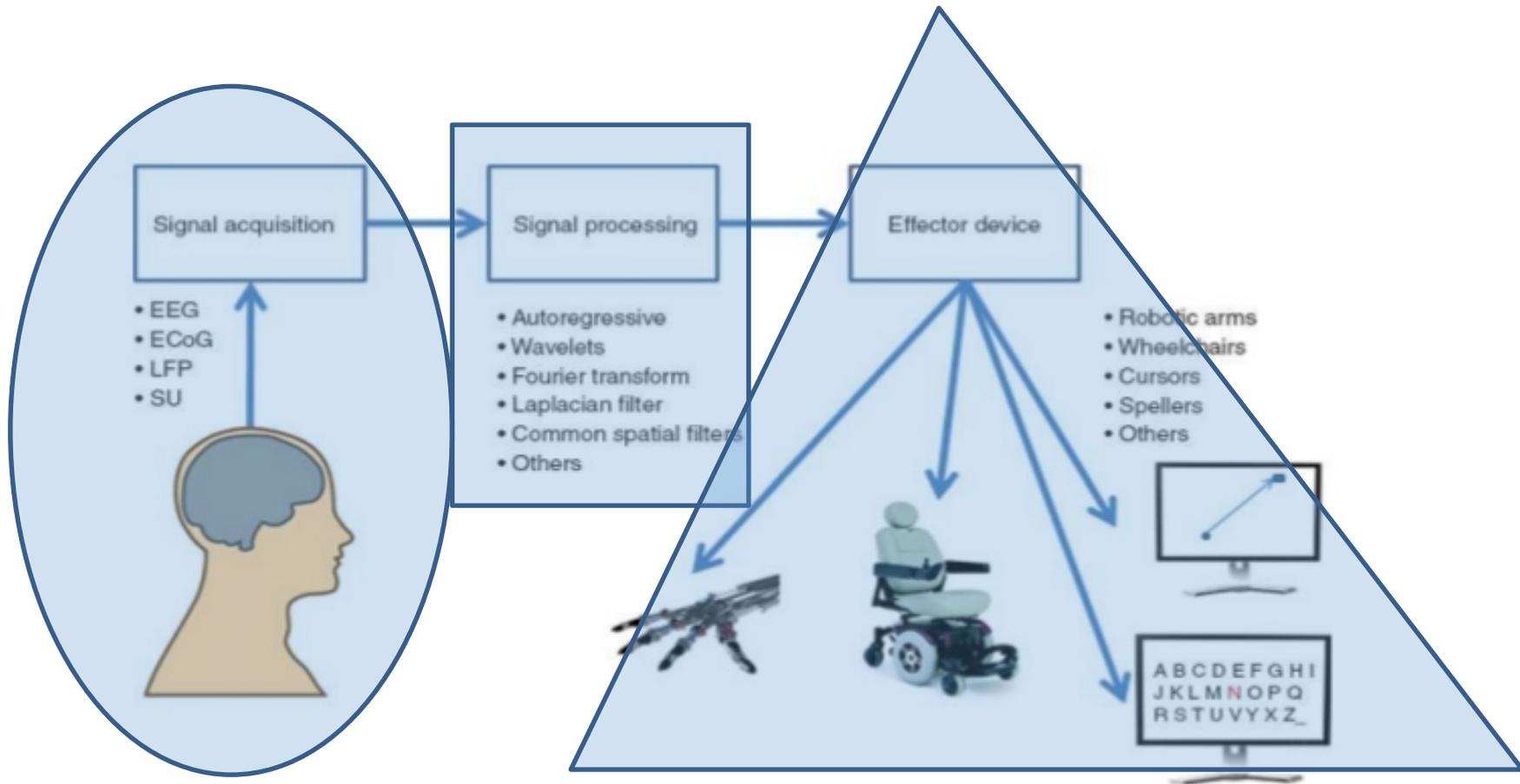
Felipe Aguel, PhD
Program Director, Translational Bioengineering
NINDS

Outline

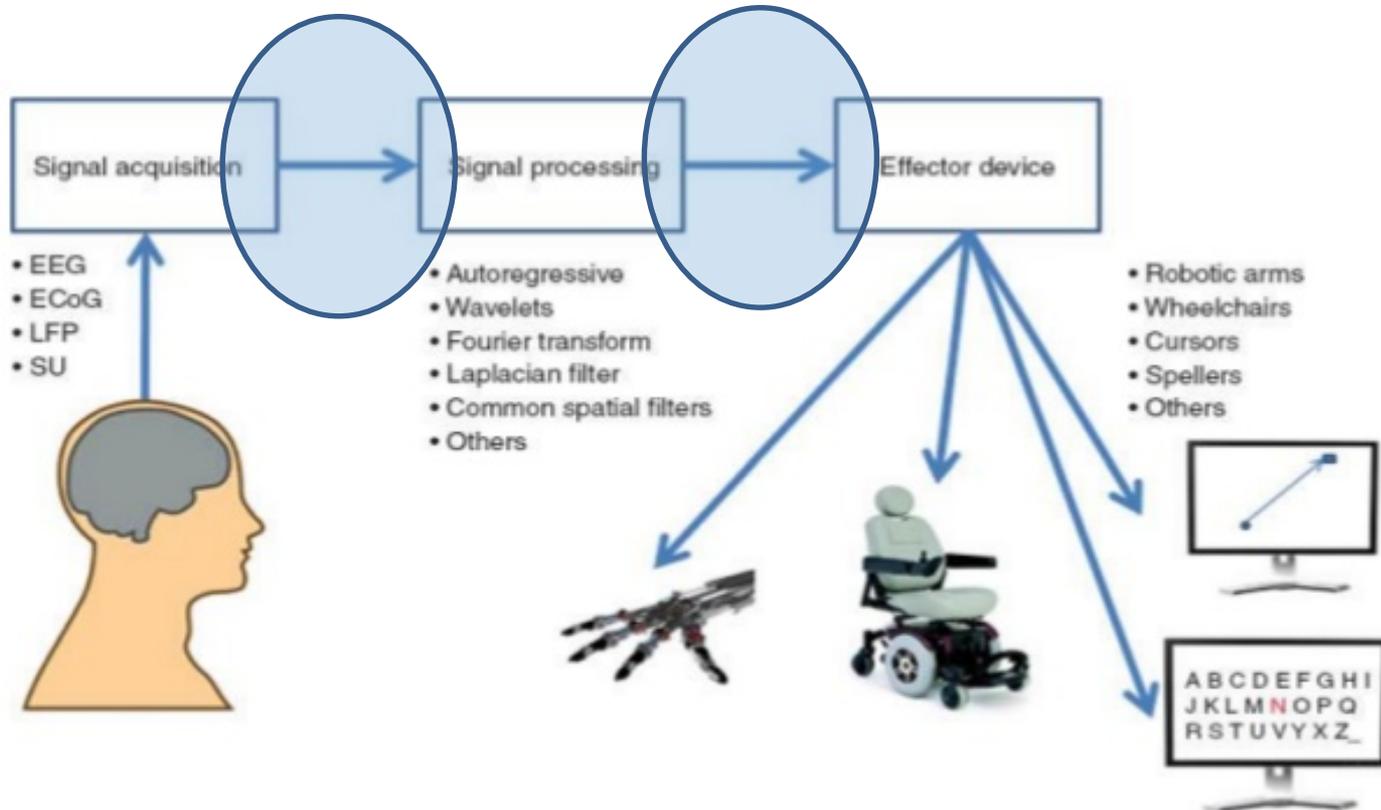
- What are we talking about when we say:
 - Modularity
 - Standardization
- Goals and Plans going forward
- Logistics



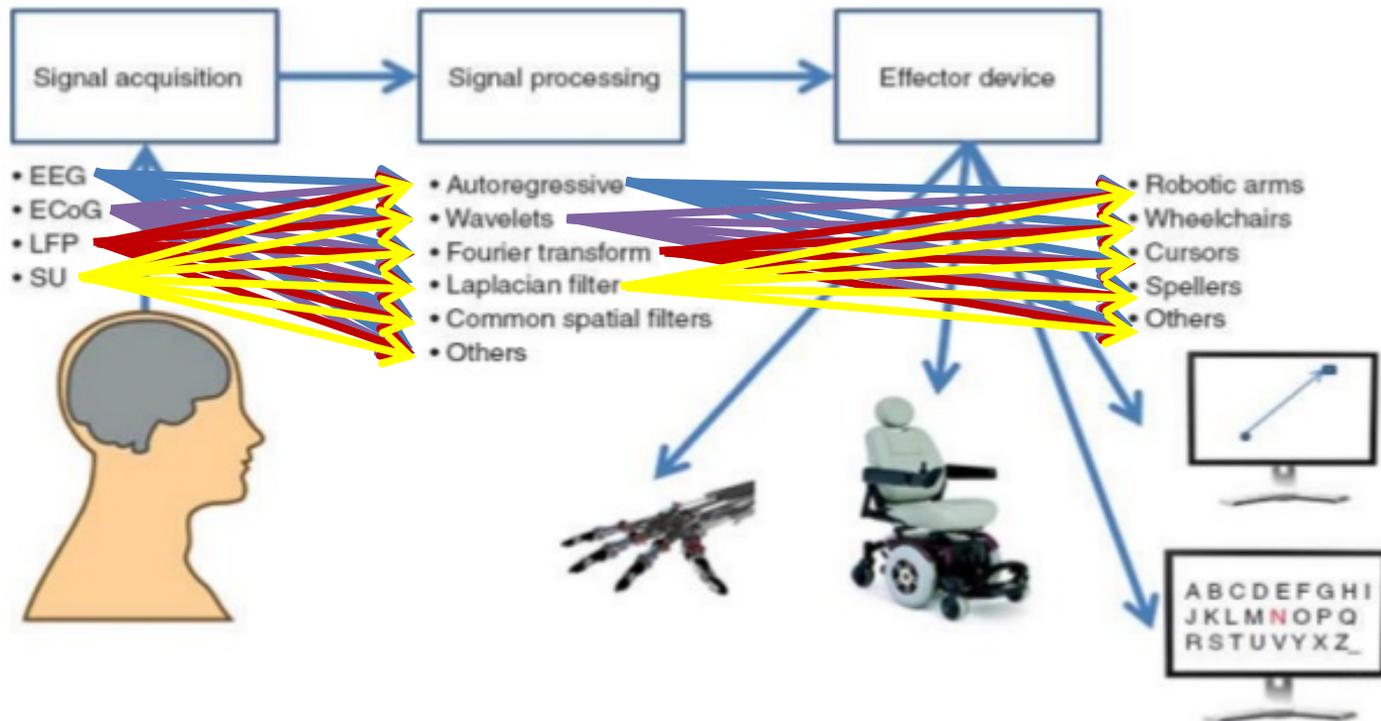
Modularity



Standardization



Standardization



standardization versus Standardization

- Common metrics and methods used across the community
- Formal Standards development and adoption

standardization versus Standardization

- Common metrics and methods used across the community
- Formal Standards development and adoption

Definitions/terminology

Data quality

Data throughput

Connectors

Mechanical properties

Material properties

Goals for today's workshop

- Identify and prioritize which challenges might best be addressed by adopting:
 - common metrics and methods across the community, and/or
 - Formal Standardization
- Discuss whether modularity is a goal to strive for.
 - What standards/Standards might help get the field there?
- Discuss how to begin the process, if the consensus is to develop and adopt metrics/methods and Standards.

Is the field ready and willing?

- Will standardization help or stifle progress?
 - Answer may be topic-specific
 - What about Standardization?
- What are the top priorities?
- Consensus building and adoption of standards does not happen overnight
 - But the later we start the later we finish
- Overlapping but different list of incentives for stakeholders
- Concrete action will take place when it is worthwhile for a critical mass of stakeholders to spend the time and effort

About the agenda

Morning & early afternoon:

- Talks and Q&A sessions to set the stage for afternoon discussion sessions
 - Where we've been
 - Current paradigm
 - Challenges that might benefit from standards development from the viewpoint of developers of BCI system components
 - Standards process and experiences

Afternoon:

- Three workshop-wide discussion sessions
- Make your voice heard during these discussions!
- If you are attending via webcast, please email any questions to Felipe.Aguel@nih.gov

Plans for today & going forward

- Today: have an open discussion,
 - keep in mind actionable steps
- Distill the major messages into actionable steps during afternoon sessions
 - What steps toward development of standards and Standards should we dedicate time and effort to?
 - Who? How? When?
- Continue discussions post-workshop and solicit volunteers to form working groups according to actionable steps identified

Logistics

- Time keeping
 - agenda is tight; **please stay on time**
- Bathrooms
 - out through glass doors and to the left
- Transportation
 - please see Monica Fleming at registration desk if you need to arrange a taxi after the meeting
 - Shuttle back to conference hotel leaves at 5:00

Logistics

- Coffee/refreshments/snacks
 - available for purchase in cafeteria on 1st floor
- Lunch
 - sponsored by Medtronic for non-government employees
 - also available for purchase in cafeteria on 1st floor
 - can eat in this room

Some thoughts

- *A year from now you may wish you had started today.*
- Karen Lamb
- *When there is a hill to climb, don't think that waiting will make it smaller.*
- Author Unknown
- *Someone is sitting in the shade today because someone planted a tree a long time ago.*
- Warren Buffett