MHTech Center Interest Lunch at the Faculty Club

Minutes from the meeting of Tuesday, August 29, 2017

Attendees

1. Igor Grant - Psychiatry
2. Eric Granholm - Psychiatry
3. Hari Garudadri - Engineering
4. Ramsin Khoshabeh - ECE
5. Fernando Martinez - Psychiatry
6. Diane Sorensen - Psychiatry
7. Camile Nebeker - Engineering
8. Nadir Weibel - CSE
9. Yaov Freund - CSE
10. Neal Swerdlow - Psychiatry
11. Lisa Eyler - Psychiatry
12. Tiffany Greenwood - Psychiatry
13. Zvinka Zlatar - Psychiatry
14. Jason Lavender - Psychiatry
15. Rakesh Kumar - Engineering
16. Dilip Jeste - Psychiatry
17. Greg Light - Psychiatry
18. David Wing - Engineering
19. Laurel Riek - Engineering
20. Jay Giedd - Psychiatry
21. Nancy Downs - Psychiatry
22. Ming Tsuang - Psychiatry
23. David Moore - Psychiatry
25. James Pittman – Psychiatry
26. Tom Marcotte – Psychiatry
27. Clint Cushman – Psychiatry
28. Mariana Cherner – Psychiatry
29. Graham Eglit (?) – Psychiatry
30. Janis Jenkins – Psychiatry, Anthro
31. Jyoti Mishra – Psychiatry
32. Emily Bass – Ofc of VC Research Affairs
33. Ramesh Rao – ECE
34. Dimitri Perivoliotis - Psychiatry
35. Jurgen Schulze – Engineering
36. Jason Holden - Psychiatry
37. Drew Hall – ECE
38. Bill Perry - Psychiatry
39. Sarah McEwan - Psychiatry
40. Cheolhong An – ECE
41. Colin Depp - Psychiatry
42. Geert Schmid-Schonbein-Bioengineering
43. Felicia Roston - Psychiatry
44. Sean Ryback - Psychiatry

Emily Bass – Office of Research Affairs
- Two opportunities available:
  http://blink.ucsd.edu/sponsor/ora/awards-funding/index.html
  1) Chancellors Research Excellence Scholarships (CRES) – deadline Oct 12
     — Formerly the Frontiers of Innovation Scholars Program (FISP)
     — Funding opportunity for undergrads, graduate students, postdocs
  2) Center Launch: Seed funding for large Proposal Development - deadline Oct 12
     — One-time, non-renewable seed funding for planning and development activities
     leading to the submission of proposals for major extramural research support
     — $20-30K or $75K opportunities to build a team and receive funding

Eric Granholm – Psychiatry
- Mental Health is looking for technologies to assess and deliver interventions
  — Fixed and mobile technologies
  — Optimization of MH interventions thru technology
  — Driving interventions; VR assessments and interventions; Flexible nanotechnology
    and wearable sensors; Brain stimulation based therapies
- Possible themes
  — Mobile, wearable and home-based MH assessments and interventions
— Early detection, prevention and intervention for MH disorders
— Cognitive wellness (Assessment, Brain Training, TMS/tDCS)
— Access to MH Care

• Possible Cores
  — Treatment Development and Evaluation
  — Emerging Technologies/ Design
  — Data Analytics
  — Dissemination & Implementation
  — Training/ Education
  — Ethics and Privacy

• Training and Service Opportunities
• Working Mission: To improve mental health research and services by designing and producing high quality, accessible, ethical, and effective innovations in digital mental health and technology.
• Working Vision: The MHTech Center will serve as a campus and national resource to accelerate mobile and digital technology projects to improve mental health, by facilitating transdisciplinary collaboration, developing novel shared technology resources, providing cross-departmental educational opportunities, and collaborating with industry and community stakeholders.

Jurgen Schulze – Engineering (moderating) on Next Steps/Grand Challenges
• Application driven (to solve a problem)
  — SBIR (start-ups) vs research driven directions
  — End user
  — Core to facilitate
  — Develop open access portal
• What are the mental health “grand challenges” that need to be worked on?
  — Detection, screening measures, risk identification, dense sampling (& change)
  — Real-time notifications and connection to services
  — Passive vs smart phone active measures
  — Systems theory – design to feedback and change
• Develop tools for real time detection and connection to services
• Note on AI vs IA (intelligence amplification); think of the costs, less requirements on the human to do something
• Need better MH measures to determine if treatments are working (outcome assessment), as well as identify those who need treatment (detection)
• Need better intervention design that capitalizes on better assessments to increase reach and efficacy of MH treatments: how engineers can intervene

ACTION ITEM: Task Force needed to review mental health assessments to translate into quantifiable engineering assessments
  — engineers and clinicians to sit together to come up with objective scheme to “instrument and come up with a number”
  — How to design feedback mechanisms in order to create change/make improvements vs just monitoring
  — Treatment interventions – teaching patients; how to integrate therapeutic interventions with technologies
— Need to be mindful of cross conversation with industry, understanding each others languages

Colin Depp (Psychiatry) and Laurel Riek (Engineering) – Education
• List of active Medicine/Engineering Education initiatives
• Prelim vision: clinical observerships; reposition of challenges; course development; revision or new T32s with MHTech focus; Masters or PhD program
• Example projects from Healthcare Robotics Spring 2017

Discussion:
— Find clinical research projects where engineering students can observe (Psychiatry website has a list of research areas and faculty)
— Engineering students could join mental health course where patients are evaluated / medical student courses are recorded
— Academic Internship Program available
— Consideration of HIPAA across the disciplines
— Opportunity for work in speech /speech recognition

Camile Nebeker – CORE initiative
• Connected and Open Research Ethics (CORE) initiative supported by the Robert Wood Johnson Foundation (RWJF) - http://thecore.ucsd.edu/
— Mobile Imaging, pervasive Sensing, Social media and location Tracking or “MISST” strategies can be used to study and improve human health, but navigating the ethics and regulatory review process is challenging. The CORE brings researchers, ethics board members, technologists and other stakeholders together to share their expertise and experiences to shape best practices.
— The website offers forums and resources

Ideas for website content:
List of research projects with observation opportunities
Collaboration requests
Students seeking clinical observation; projects to work on; volunteer opportunities
Classes with patient interview opportunities

Next meeting Tuesday, October 3 at 12:45pm at the Faculty Club

Sign ups for work groups:

Objective Mental Health Measures Task Force
Hari Garudadri (Chair), Geert Schmid-Schonbein, Ramsin Khoshabeh, Eric Granholm, Igor Grant, Rakesh Kumar, Cheolhong An, Greg Light, David Moore

Education Work Group
Igor Grant, Greg Light, Lisa Eyler, David Moore, Colin Depp, Rakesh Kumar, Jay Giedd,

Center Work Group
Eric Granholm, Jurgen Schulze, Ramsin Khoshabeh, Igor Grant, Greg Light, Rakesh Kumar, Hari Garudadri, Fernando Martinez, James Pittman, Tiffany Greenwood, Jason Lavender, Sarah McEwen, David Moore, Clint Cushman, Tom Marcott