| Brains, Min | ds and Machine | es Summer Course 2020   |              |  |                 |   |                 |  |                        |
|-------------|----------------|---|--------------|--|-----------------|---|-----------------|--|------------------------|
| ALL TIMES   | ARE US ET (Ne  | w York)   |              |  |                 |   |                 |  |                        |
|             |                |   |              |  |                 |   |                 |  |                        |
|             |                | 12-1pm  | 1-1:<br>15pm | 1:15-2:15pm  | 2:15-2:<br>30pm | 2:30-3:30pm   | 3:30-3:<br>45pm | 3:45-4-45pm  | LEGEND                 |
| 08/10/2020  | Monday         | Tommy Poggio: Introduction to CBMM   Gabriel Kreiman   Boris Katz   Others: Introduction to the summer course               | BREAK        | Jim DiCarlo: Visual recognition  | BREAK           | Tutorial. Ethan Meyers: Using population decoding to understand neural content and coding | BREAK           | Panel Discussion:<br>Hilbert questions in<br>Al [Kreiman, Poggio,<br>Tellex]   | Tutorial               |
| 08/11/2020  | Tuesday        | Christof Koch: Relating the structure of the brain to its function by tracking a net-wave of spikes up the visual hierarchy | BREAK        | Aleksander Madry   | BREAK           | Gabriel Kreiman: Recurrent computations to the rescue                                     |                 | Virtual poster session   | Lecture                |
| 08/12/2020  | Wednesday      | Tomaso Poggio: A theory of deep learning: explaining the approximation. optimization and generalization puzzles             | BREAK        | Tutorial: Andrei Barbu, Colin Conwell, David Mayo: From zero to machine vision to mouse brains | BREAK           | Antonio Torralba: Dissecting neural networks  | BREAK           | Panel Discussion: What is the relationship between biological brains and Al algorithms? [Kanwisher, Serre, Tenenbaum]  | Panel Discussion       |
| 08/13/2020  | Thursday       | Pietro Perona   | BREAK        | Boris Katz: Al /<br>Language 2   | BREAK           | Andrei Barbu: Vision<br>+ Language  | BREAK           | Virtual poster session   | Virtual poster session |
| 08/14/2020  | Friday         | Josh Tenenbaum:<br>Computational models<br>of cognition   | BREAK        | Constantinos<br>Daskalakis   | BREAK           | Nancy Kanwisher:<br>functional specificity<br>of the human brain                          | BREAK           | Panel Discussion: Is<br>there anything<br>special about human<br>intelligence? (vs.<br>non-human animals,<br>vs. machines)<br>[Schulz, Wilson, Roy,<br>Murthy] |                        |
|             |                |   |              |  |                 |   |                 |  |                        |
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| 08/17/2020  | Monday        | Marge Livingstone: Functional Modules: What Art can tell us about the Brain | BREAK        | Winrich Freiwald:<br>Faces and social<br>interactions   | BREAK           | Tutorial: Marta Kryven: Probabilistic Programming  |                 | Panel Discussion: Al<br>and Ethics [Kreiman,<br>Max Tegmark, V.C.<br>Muller, Tenenbaum] |        |
| 08/18/2020  | Tuesday       | Haim Sompolinsky  | BREAK        | Shimon Ullman: Scene understanding by bottom-up, top- down, visual routines.  | BREAK           | Christos<br>Papadimitrious:<br>Language in the<br>brain  |                 | Virtual poster session  |        |
| 08/19/2020  | Wednesay      | Stefanie Tellex   | BREAK        | Leslie Kaelbling: Making robots behave intelligently  | BREAK           | Tutorial: Mengmi<br>Zhang: Toward<br>Brain Computer<br>Interface: Deep<br>generative models<br>for brain reading |                 | Panel Discussion: The path towards general Al [Oliva, Gershman]                         |        |
| 08/20/2020  | Thursday      | Matt Wilson: Hippocampal mechanisms of memory and cognition                 | BREAK        | CBMM Alumni Panel:<br>Bill Lotter, Hanlin<br>Tang, Andrea<br>Tacchetti, Georgios<br>Evangelopoulos,<br>Yibiao Zhao, Gemma<br>Roig, Leyla Isik | BREAK           | Lorenzo Rosasco:<br>Machine Learning   |                 | Virtual poster session  |        |
| 08/21/2020  | Friday        | Josh McDermott  | BREAK        | Tutorial: Arturo Deza:<br>Perceptual Invariance<br>in Humans and<br>Machines  | BREAK           | Philip Nelson  |                 |   |        |