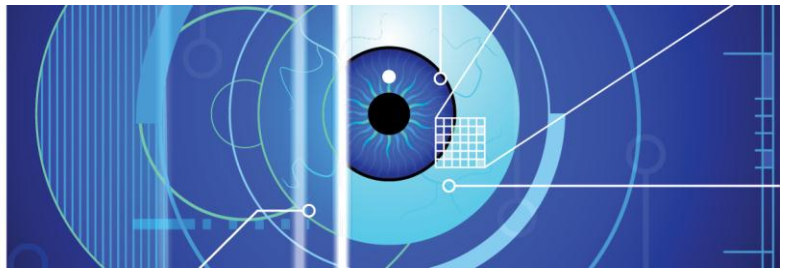


# Vision Science Problems in Medical Imaging

A Research Initiative of the National Cancer Institute  
Basic Biobehavioral and Psychological Sciences Branch



## Workshop Agenda

November 6-7, 2014

NIH Neuroscience Center

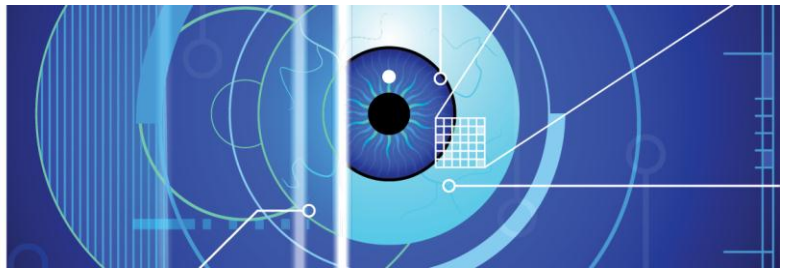
6001 Executive Boulevard, Rockville, MD

### DAY 1

| Time                | Topic   | Speaker/Moderator                   |
|---------------------|---|-------------------------------------|
| 9:00 – 9:15 am      | Welcome and Introduction                        | Todd Horowitz                       |
| 9:15 – 10:45 am     | <b>Session 1</b>                                | <i>Moderator: Lynne Padgett</i>     |
|                     | Connectomics for Neuro-oncology                 | Ragini Verma                        |
|                     | Context-Based Prediction in Vision              | Nick Turk-Browne                    |
|                     | Discussion                                      |                                     |
|                     | Next-Generation Tomosynthesis                   | Andrew Maidment                     |
|                     | Expectations and Strategies in Visual Attention | Edward Vul                          |
|                     | Discussion                                      |                                     |
| 10:45 – 11:00 am    | Break   |                                     |
| 11:00 am - 12:30 pm | <b>Session 2</b>                                | <i>Moderator: Kristin Litzelman</i> |
|                     | Imaging Methods in Pathology                    | Brandon Gallas                      |
|                     | Perceptual Organization and Attention           | Cathleen Moore                      |
|                     | Discussion                                      |                                     |
| 12:30 – 1:30 pm     | Lunch   |                                     |
| 1:30 – 3:00 pm      | <b>Session 3</b>                                | <i>Moderator: Rebecca Ferrer</i>    |
|                     | Non-Imaging Medical Displays                    | Raj Ratwani                         |
|                     | Optimizing Human Visual Search                  | Miguel Eckstein                     |
|                     | Discussion                                      |                                     |
|                     | Digital Imaging in Pathology                    | Yukako Yagi                         |
|                     | Foraging for Tumors (Apparently...)             | Jeremy Wolfe                        |
|                     | Discussion                                      |                                     |
| 3:00 – 3:15 pm      | Break   |                                     |

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| Time           | Topic  | Speaker/Moderator                 |
|----------------|--|-----------------------------------|
| 3:15 – 5:00 pm | Session 4  | <i>Moderator: Annette Kaufman</i> |
|                | Quantitative Imaging Biomarkers  | Alicia Toledano                   |
|                | Combining Behavioral and Computational Tools to Address Complex Search Tasks                       | Gregory Zelinsky                  |
|                | Discussion   |                                   |
|                | Classification Images in Forced Localization Tasks Show the Benefit of Shepp-Logan Filtering in CT | Craig Abbey                       |
|                | Non-Human, Non-Silicon-Based Image Classifiers   | Richard Levenson                  |
|                | Discussion   |                                   |
| 5:00 pm        | Adjourn  |                                   |

### DAY 2

| Time               | Topic  | Speaker/ Moderator          |
|--------------------|--|-----------------------------|
| 9:00 – 10:45 am    | <b>Session 5</b>                                       | <i>Moderator: Vinay Pai</i> |
|                    | Understanding Logarithmic Efficiency in Visual Search  | Alejandro Lleras            |
|                    | Visual Search for Malignancies in Screening Mammograms | Jay Hegde                   |
|                    | Discussion   |                             |
|                    | Human Factors, Neuroergonomics, and Visual Search      | Matt Peterson               |
|                    | Multiple Target Search Strategies                      | Preeti Verghese             |
|                    | Discussion   |                             |
| 10:45 – 11:00 am   | Break  |                             |
| 11:00 am- 12:00 pm | Determine Gaps and Priorities for Future Research      | Moderator: Todd Horowitz    |
| 12:00 pm           | Adjourn  |                             |