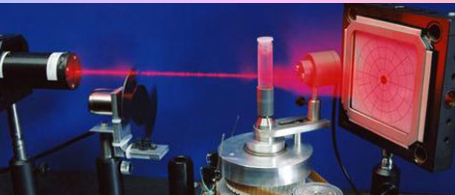


## SUMMARY:

- Steps take: Initial market segments, time horizons and technologies identified
- Sources of market inputs: NPI, NIH Roadmap, Frost and Sullivan, Through leader and company interviews
- Scope: Focus on technology gaps of performance and cost
- Already existing impact - still an emerging market and impact from biophotonics as it related to everyday care
  - Strong cultural differences between way we train doctors and way we design product
- Intend to have engagement through Boston University because of engagement of Boston Area - looking to build team that has diversity of academic and product development engagement
- Group comments:
  - Significant regulatory challenges with FDA and reimbursement structures.
    - Unless technician is making money with a new diagnostic tool, it is difficult to sell the technologies.
  - Lasers:
    - Inexpensive laser that fits within therapeutics could be highly valuable
    - Team will look to see if there are synergies where the automotive industry and medical industry may be able to actualize the investment there.
  - Working with biomedical companies - what is the plan to bring these companies into the project?
    - Contact at St. Jude has been reached out to
    - Defining what they want to do exactly is key for successful corporate engagement.
    - Initially will look for academic thought leaders to reach out to companies that already have established relationships with the companies
  - NIH involvement in the process?
    - Yes, NIH roadmap is one of the inputs being used for this initiative
    - Team has been talking to program directors and their input has been influential

# Biophotonics

- Co-Chairs: Jim Zavislan, Univ. of Rochester and Bruce Tromberg, Univ. Cal. Irvine
- Members: Rongguang Liang, University of Arizona, Selim Ünlü and Alice White, Boston University
- Steps taken: Initial market segments, time horizons and technologies identified
- Sources of market input: National Photonics Initiative, NIH Roadmap, Frost and Sullivan Reports, Thought leader and company interviews during Photonics West 2015
- Initial thoughts on scope: Focus on technology gaps of performance and cost
- Potential challenges or special circumstances:
  - Principally a diverse application area: from research to clinical medicine, diagnostics to therapeutics
  - Many technologies are not yet standard of care
  - Opportunity: Biophotonics will contribute to improved outcomes, higher efficiency and lower cost.



**NTRP**  
National Technology Roadmap for Photonics

**NIST**  
National Institute of  
Standards and Technology  
U.S. Department of Commerce