

T

T



!

≡

"

"



↑

↑



≡

!



*A historical view of biosensor development*

*Chromogenic sensors*

*Fluorescent sensors*

*Bioluminescent sensors*

*Plasmonic sensors*

*Bragg sensors*

*Optical fiber sensors*

---

---

---

*Origins of paper based assays*

*Materials*

*Lateral flow assays*

*Built in functions*

*Device assembly*

*High throughput manufacturing*

---

*Microelectromechanical systems (MEMS)*

*Microfluidic device fabrication*

*Paper based microfluidics*

*Multiplexed assays*

*Programmable microfluidic devices*

*Device assembly*

---

*Algorithms*

*Benchtop analyzers*

*Portable handheld analyzers*

*Smartphone based detection*

*Connectivity options*

*Geolocation*

---

---

---

*Physiology of skin*

*Composition of sweat and interstitial fluid*

*Biofluid sampling*

*Wearable device fabrication*

*Readout electronics*

---

*Group Project Presentations*

*Q&A and Feedback*

*Announcement of Winning Project Group*

---

—



↑

—

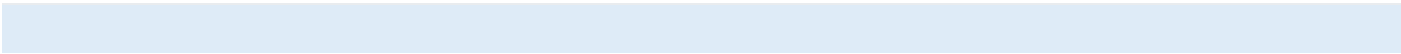
—



!



≡



*Light in medicine*

*Current market trends*

*Photonic material innovation*

*Biophotonic device development*

*Future of photonic devices in medicine*

---

---

---

*Principles of waveguides*

*Multi mode fibers*

*Single mode fibers*

*Optical fiber manufacturing*

*Applications in endoscopy*

---

*Absorbance, reflection and fluorescence spectroscopy*

*Spectrophotometer design*

*Smartphone spectrophotometers*

---

*Phase contrast microscopy*

*Fluorescence microscopy*

*Confocal microscopy*

*Two photon microscopy*

*Holographic microscopy*

---

*Low level laser therapy (LLLT)*

*Photodynamic therapy (PDT)*

---

---

*Photothermal therapy (PTT)*

*Applications in dermatology*

---

*Group Project Presentations*

*Q&A and Feedback*

*Announcement of Winning Project Group*

---

—