



**High-Speed Imaging for Motion Analysis:
Systems and Techniques
June 26-29, 2017**

Monday	SESSION
9:00- 9:15	Welcome, Staff Introductions, Edgerton Center Background
9:15- 9:45	Introduction to High-Speed Imaging
9:45- 10:15	Basic Lighting
10:15- 10:30	Break
10:30- 10:45	Scientific High-Speed Cameras
10:45- 11:00	Camera Speed, Shuttering, and Triggering
11:00- 11:15	Ultra High-Speed IS-CCD Camera Technology
11:15- 11:45	High-Speed Imaging at MIT
11:45- 1:00	Lunch
1:00- 1:30	Present Team Assignments
1:30- 2:15	Lab Session 1 - Basic Lighting
2:15- 3:00	Lab Session 2 - Scientific High-Speed Cameras
3:00- 3:15	Break
3:15- 4:00	Lab Session 3 - Camera Speed, Shuttering, and Triggering
4:00- 4:45	Lab Session 4 - Ultra High-Speed Solid State Imaging
4:45-	Meet in Collaboration Teams

Tuesday	SESSION
9:00- 10:00	Motion Analysis: Extracting Movement Data from Video
10:00- 10:15	Embedded Processors In HSV Camera Design
10:15- 11:00	Lenses I
11:00- 11:15	Break
11:15- 11:30	Synchronizing Video, Data & Instrumentation
11:30- 12:00	Advanced Lighting
12:00- 1:00	Lunch
1:00- 1:45	Lab Session 1 - Advanced Lighting
1:45- 2:30	Lab Session 2 - Ultra High-Speed IS-CCD Camera Technology
2:30- 3:15	Lab Session 3 - Synchronizing Video, Data & Instrumentation
3:15- 3:30	Break
3:30- 4:15	Lab Session 4 - Embedded Processors In HSV Camera Design
4:15- 5:00	Lab Session 5 - Motion Analysis
5:00-	Meet in Collaboration Teams

Wednesday**SESSION**

9:00- 9:30	Detection & Tracking
9:30- 10:00	3D and 6DOF Motion Analysis
10:00- 10:15	Break
10:15- 11:15	Lenses II
11:15- 12:00	Schlieren Imaging
12:00- 1:15	Lunch
1:15- 2:00	Lab Session 1 - Triggering
2:00- 2:45	Lab Session 2 - Detection, Tracking, 3D and 6DOF Motion Analysis
2:45- 3:30	Lab Session 3 - Schlieren Imaging
3:30- 3:45	Break
3:45- 4:30	Lab Session 4 -Lenses II
4:30-	Meet in Collaboration Teams

Thursday**SESSION**

9:00- 9:30	Ultra High-Speed Framing Cameras
9:30- 10:00	Streak Cameras
10:00- 10:15	Break
10:15- 10:30	Data Collection and the Digital Sensor
10:30- 11:00	Special Cases of Lighting
11:00- 11:15	High-Speed Imaging Workflow for TV and Entertainment
11:15- 11:45	High-Speed Video of Sneezes and Coughs
11:45- 12:15	Strobes for High-Speed Imaging
12:15- 1:15	Lunch
1:15- 2:00	Lab Session 1 - Ultra High-Speed Framing Cameras
2:00- 2:45	Lab Session 2 - High-Speed Imaging Workflow for TV and Entertainment
2:45- 3:30	Lab Session 3 - Data Collection and the Digital Sensor
3:30- 3:45	Break
3:45- 4:30	Lab Session 4 - Shot in the Dark (Strobes)
4:30- 6:00	Final student prep time for presentation
6:00- 9:00	Reception, Dinner, Presentations and Graduation

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