

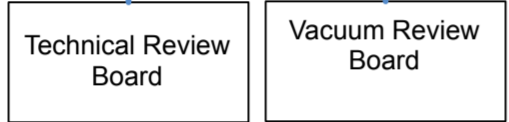
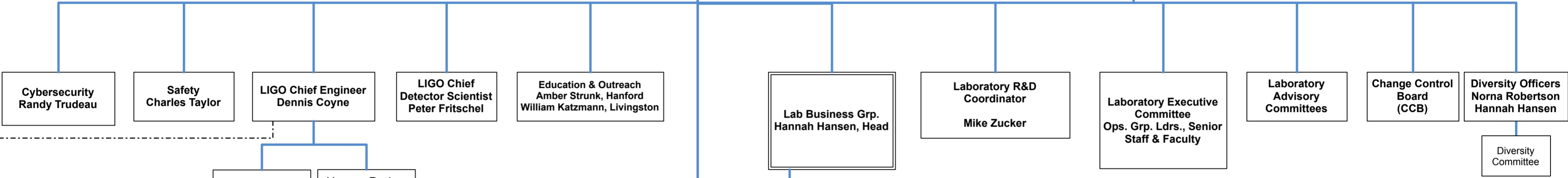
**LIGO LAB DIRECTORATE**  
**David Reitze, Executive Director**  
**Albert Lazzarini, Deputy Director**

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Peter Fritschel  
Associate Director  
MIT

Fred Raab  
Associate Director  
Observatory Operations

**Operations Management Team**  
**LIGO-M1400343**



**Lab Business Grp.**  
**Hannah Hansen, Head**

*Business Systems*  
 Procurement  
 Reporting  
 Budgeting  
 Travel, etc.

**Laboratory R&D Coordinator**  
**Mike Zucker**

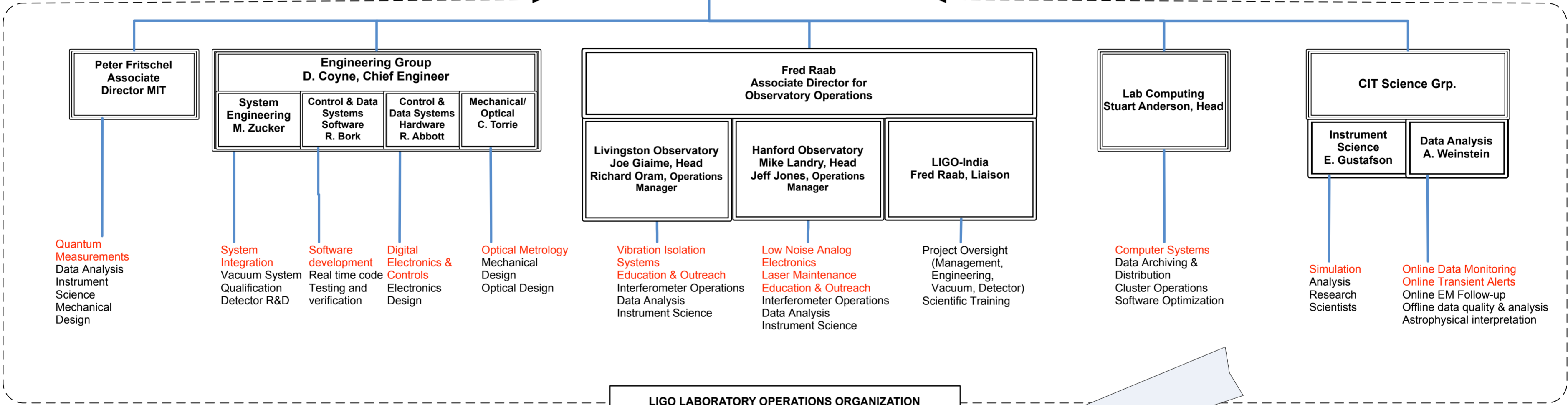
**Laboratory Executive Committee**  
 Ops. Grp. Ldrs., Senior Staff & Faculty

**Laboratory Advisory Committees**

**Change Control Board (CCB)**

**Diversity Officers**  
 Norna Robertson  
 Hannah Hansen

Diversity Committee



**ENGINEERING STANDARDS & PRACTICES**

**Peter Fritschel**  
 Associate Director MIT

**Engineering Group**  
**D. Coyne, Chief Engineer**

<b>System Engineering</b> M. Zucker	<b>Control &amp; Data Systems Software</b> R. Bork	<b>Control &amp; Data Systems Hardware</b> R. Abbott	<b>Mechanical/Optical</b> C. Torrie
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**Fred Raab**  
 Associate Director for Observatory Operations

**Livingston Observatory**  
 Joe Giaime, Head  
 Richard Oram, Operations Manager

**Hanford Observatory**  
 Mike Landry, Head  
 Jeff Jones, Operations Manager

**LIGO-India**  
 Fred Raab, Liaison

**Lab Computing**  
 Stuart Anderson, Head

**CIT Science Grp.**

<b>Instrument Science</b> E. Gustafson	<b>Data Analysis</b> A. Weinstein
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*Quantum Measurements*  
 Data Analysis  
 Instrument Science  
 Mechanical Design

*System Integration*  
 Vacuum System  
 Qualification  
 Detector R&D

*Software development*  
 Real time code  
 Testing and verification

*Digital Electronics & Controls*  
 Electronics Design

*Optical Metrology*  
 Mechanical Design  
 Optical Design

*Vibration Isolation Systems*  
 Education & Outreach  
 Interferometer Operations  
 Data Analysis  
 Instrument Science

*Low Noise Analog Electronics*  
 Laser Maintenance  
 Education & Outreach  
 Interferometer Operations  
 Data Analysis  
 Instrument Science

Project Oversight (Management, Engineering, Vacuum, Detector)  
 Scientific Training

*Computer Systems*  
 Data Archiving & Distribution  
 Cluster Operations  
 Software Optimization

*Simulation*  
 Analysis  
 Research  
 Scientists

*Online Data Monitoring*  
 Online Transient Alerts  
 Online EM Follow-up  
 Offline data quality & analysis  
 Astrophysical interpretation

**LIGO LABORATORY OPERATIONS ORGANIZATION**

**LIGO PROJECTS**

**Detector Commissioning**  
 Peter Fritschel, Leader  
 Valera Frolov, Livingston Site Leader  
 Daniel Sigg, Hanford Site Leader

**Detector Development Projects**  
 Mike Zucker, Leader

**40M Lab (CIT)**  
 Rana Adhikari, Leader

**LASTI (MIT)**  
 Rich Mittleman, Leader

**LIGO Open Science Center**  
 Alan Weinstein, Leader

**LIGO-India**  
 Fred Raab, Leader

**A+**  
 Mike Zucker, Leader

Commissioning Team

LIGO Lab Staff

40M Staff

LASTI Staff

LOSC Staff

LIGO-India Staff

A+ Staff

**MATRIXED SCIENCE/ENGINEERING SUPPORT TO PROJECTS**

**KEY**

Group or Project Leader

*Lab-wide center of expertise*  
 Principal functions  
 ...

**LIGO Laboratory Organization Chart**  
**LIGO-M060092-v16**  
**21 May 2018**