SEATTLE TECHNICAL SESSIONS, SPECIAL TOPICS

S1. Coordinated Multi-Vehicle Teams for Marine Applications (Air, Surface, Underwater)
S2. Polar and Under Ice Stationary and Mobile Observing Systems
S3. Offshore Earthquakes – Measuring and Mitigating Their Impact
S4. Wave, Current, Wind, and Gradient Energy Harvesting
S6. Plastics in the Ocean: Observation and Mitigation Methods
S7. Aquaculture: Technology for Management, Monitoring, and Mitigation
S8. Electrification of Marine Propulsion Systems and Digitalization of Marine Handling Systems
S9. FOR EXHIBITORS ONLY: Commercial Vendor Introduction of New or Improved Products (no paper publication in IEEE Xplore paper)

OCEANS TECHNICAL SESSIONS, STANDARD TOPICS

1.0 Underwater Acoustics and Acoustical Oceanography
   1.1 Sonar and transducers
   1.2 Calibration of acoustic systems and metrology
   1.3 Sound propagation and scattering
   1.4 Acoustical oceanography
   1.5 Geoacoustic inversion
   1.6 Bioacoustics
   1.7 Seismo-acoustics
   1.8 Ocean noise
   1.9 Signal coherence and fluctuation

2.0 Sonar Signal/Image Processing and Communication
   2.1 Sonar signal processing
   2.2 Array signal processing and array design
   2.3 Model-based signal processing techniques
   2.4 Vector sensor processing
   2.5 Synthetic aperture (active and passive)
   2.6 Classification and pattern recognition (parametric and non-parametric)
   2.7 Sonar imaging
   2.8 Acoustic telemetry and communication
   2.9 Biologically inspired processing

3.0 Ocean Observing Platforms, Systems, and Instrumentation
   3.1 Automatic control
   3.2 Current measurement technology
   3.3 Oceanographic instrumentation and sensors
   3.4 Systems and observatories
   3.5 Buoy technology
3.6 Cables and connectors
3.7 Marine geodetic information systems

4.0 Remote Sensing
4.1 Air / sea interaction
4.2 Lidar
4.3 Passive observing sensors
4.4 Coastal radars
4.5 Ocean color and hyperspectral measurements
4.6 Airborne and satellite radar and SAR
4.7 Operational observation
4.8 Sensor synergy
4.9 Space systems

5.0 Ocean data Visualization, Modeling, and Information Management
5.1 Access, custody, and retrieval of data
5.2 Data visualization
5.3 Numerical modeling and simulation
5.4 Marine GIS and data fusion
5.5 Information management
5.6 Data assimilation
5.7 Real-Time Data Quality Control

6.0 Marine Environment, Oceanography, and Meteorology
6.1 Oceanography: physical, geological, chemical, biological
   6.2 Marine geology and geophysics
   6.3 Hydrography / seafloor mapping / geodesy
   6.4 Hydrodynamics
   6.5 Marine life and ecosystems
   6.6 Meteorology
   6.7 Pollution monitoring
   6.8 Mineral resources

7.0 Optics, Imaging, Vision, and E-M Systems
7.1 Imaging and vision
7.2 Beam propagation
7.3 Optical sensors and adaptive optics
7.4 Marine optics technology and instrumentation
7.5 Holography and 3D imaging
7.6 Optical communication
7.7 E-M sensing
8.0 Marine Law, Policy, Management, and Education
  8.1 Coastal zone management
  8.2 Ocean economic potential
  8.3 Marine law and policy
  8.4 International issues
  8.5 Marine safety and security
  8.6 Law of the Sea and UNCLOS
  8.7 Ocean resources
  8.8 Marine education and outreach
  8.9 Marine archaeology

9.0 Offshore, Structure and Technology
  9.1 Ocean energy
  9.2 Ropes and tension members
  9.3 Offshore structures
  9.4 Marine materials science
  9.5 Marine salvage
  9.6 Diving
  9.7 Pollution clean-up and pollution remediation
  9.8 Deepwater development technology
  9.9 Seafloor engineering
  9.10 Ocean exploration

10.0 Ocean Vehicles and Floating Structures
  10.1 Vehicle design
  10.2 Vehicle navigation
  10.3 Vehicle performance
  10.4 Autonomous underwater vehicles
  10.5 Manned underwater vehicles
  10.6 Remotely operated vehicles
  10.7 Dynamic positioning
  10.8 Moorings, rigging, and anchors
  10.9 Naval architecture