Proceedings of SPIE, 0277-786X, v. 7678

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.
### Contents

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Remote Sensing</th>
</tr>
</thead>
<tbody>
<tr>
<td>7678 02</td>
<td>Quantification of uncertainties in remotely derived optical properties of coastal and oceanic waters (Invited Paper) [7678-01]</td>
</tr>
<tr>
<td></td>
<td>Z. Lee, Mississippi State Univ. (United States); R. Arnone, U.S. Naval Research Lab. (United States); C. Hu, Univ. of South Florida (United States); P. J. Werdell, NASA Goddard Space Flight Ctr. (United States); B. Lubac, U.S. Naval Research Lab. (United States)</td>
</tr>
<tr>
<td>7678 03</td>
<td>Estimation of the polarized water leaving radiance from above water measurements [7678-02]</td>
</tr>
<tr>
<td></td>
<td>A. Tonizzo, A. Ibrahim, J. Zhou, A. Gilerson, The City College of New York (United States); M. Twardowski, WET Labs., Inc. (United States); B. Gross, F. Moshary, S. Ahmed, The City College of New York (United States)</td>
</tr>
<tr>
<td>7678 04</td>
<td>Characterizing bio-optical and ecological features of algal bloom waters for detection and tracking from space [7678-03]</td>
</tr>
<tr>
<td>7678 06</td>
<td>Littoral environmental reconnaissance using tactical imagery from unmanned aircraft systems (Invited Paper) [7678-05]</td>
</tr>
<tr>
<td></td>
<td>K. T. Holland, D. M. Lalejini, S. D. Spansel, U.S. Naval Research Lab. (United States); R. A. Holman, U.S. Naval Research Lab. (United States) and Oregon State Univ. (United States)</td>
</tr>
<tr>
<td>7678 07</td>
<td>Using panchromatic imagery in place of multispectral imagery for kelp detection in water [7678-06]</td>
</tr>
<tr>
<td></td>
<td>A. M. Kim, R. C. Olsen, K. Lee, D. Jablonski, Naval Postgraduate School (United States)</td>
</tr>
<tr>
<td>7678 08</td>
<td>Comparison of primary productivity models in the Southern Ocean: preliminary results [7678-07]</td>
</tr>
<tr>
<td></td>
<td>S. L. Shang, Xiamen Univ. (China) and Oregon State Univ. (United States); M. J. Behrenfeld, Oregon State Univ. (United States); Z. P. Lee, Mississippi State Univ. (United States); R. T. O'Malley, Oregon State Univ. (United States); G. M. Wei, Y. H. Li, Xiamen Univ. (China); T. Westberry, Oregon State Univ. (United States)</td>
</tr>
<tr>
<td>7678 09</td>
<td>Validation of the three-band chlorophyll-a inversion model in turbid water: the case of Taihu Lake, China [7678-08]</td>
</tr>
<tr>
<td></td>
<td>Y. Wei, G. Wang, J. Huang, Nanjing Normal Univ. (China)</td>
</tr>
</tbody>
</table>
SESSION 2 SENSORS, SYSTEMS, AND METHODS I

7678 0A Patch recognition of algal blooms and macroalgae [7678-10]
K. H. Szekielda, The City Univ. of New York (United States); J. H. Bowles, D. B. Gillis, W. Snyder, U.S. Naval Research Lab. (United States); W. D. Miller, Computational Physics Inc. (United States)

7678 0B Forecasting of aerosol extinction of the sea and coastal atmosphere surface layer (Invited Paper) [7678-11]
G. A. Kaloshin, V.E. Zuev Institute of Atmospheric Optics (Russian Federation)

7678 0C Multi-frequency and polarimetric measurements of perturbed water surface microwave reflective and emissive characteristics by C-, and Ku-band combined scatterometric-radiometric systems [7678-12]

7678 0D Clouds and rain effects on perturbed water surface microwave reflection and emission at 37 GHz [7678-13]

7678 0E Ocean observation from NOAA National Data Buoy Center's platforms (Invited Paper) [7678-14]
C.-C. Teng, NOAA National Data Buoy Ctr. (United States)

7678 0F Glider optical measurements and BUFR format for data QC and storage [7678-15]
W. Hou, M. Carnes, D. Burrage, B. Arnone, A. Weidemann, U.S. Naval Research Lab. (United States); D. Bryant, K. Gremowicz, S. R. Mangin, K. Mahoney, M. Torres, Naval Oceanographic Office (United States)

7678 0G Airborne multispectral detecting system for marine mammals survey [7678-16]

SESSION 3 UNDERWATER OPTICS AND IMAGING I

7678 0I Efficient laser pulse dispersion codes for turbid undersea imaging and communications applications (Invited Paper) [7678-19]
F. R. Dalgleish, F. M. Caimi, A. K. Vuorenkoski, W. B. Britton, B. Ramos, Florida Atlantic Univ. (United States); T. E. Giddings, J. J. Shirron, Metron, Inc. (United States); C. H. Mazel, Physical Sciences Inc. (United States)

7678 0J Underwater polarization characteristics and their impact on water visibility [7678-20]
J. Zhou, A. Tonizzo, A. Giierson, B. Gross, F. Moshary, S. Ahmed, The City College of New York (United States)

7678 0K The impact of algal fluorescence on the underwater polarized light field [7678-21]
Effects of temperature and salinity on light scattering by water [7678-22]
X. Zhang, Univ. of North Dakota (United States); L. Hu, Univ. of North Dakota (United States) and Ocean Univ. of China (China)

SESSION 4 UNDERWATER OPTICS AND IMAGING II

Image feature detection and matching in underwater conditions [7678-24]
K. Oliver, Univ. of South Carolina (United States); W. Hou, U.S. Naval Research Lab. (United States); S. Wang, Univ. of South Carolina (United States)

Interest of correlation-based automatic target recognition in underwater optical images: theoretical justification and first results [7678-25]
I. Leonard, ISEN (France); A. Arnold-Bos, Thales Underwater Systems (France); A. Alfaiou, ISEN (France)

An incremental knowledge assimilation system (IKAS) for mine detection [7678-26]
J. Porway, C. Raju, K. M. Varadarajan, H. Nguyen, J. Yadegar, UtopiaCompression Corp. (United States)

Sonar authentication performance evaluation under realistically simulated undersea channels [7678-28]
B. G. Mobasseri, Villanova Univ. (United States); R. S. Lynch, Naval Undersea Warfare Ctr. (United States)

SESSION 5 SENSORS, SYSTEMS, AND METHODS II

Biosensor UUV payload for underwater detection [7678-29]
A. W. Kusterbeck, P. T. Charles, B. J. Melde, S. A. Trammell, A. A. Adams, J. R. Deschamps, U.S. Naval Research Lab. (United States)

Electro-active material (EAM) based bend sensors [7678-30]
R. LaComb, J. LaComb, Naval Undersea Warfare Ctr. (United States)

Combined pre-concentration and real-time in-situ chemical detection of explosives in the marine environment [7678-31]
M. L. Dock, R. J. Harper, E. Knobbe, ICx Technologies (United States)

Simulations for a wide swath synthetic aperture microwave radiometric imaging of wind speed and rain rate in hurricanes [7678-33]
R. A. Amarin, S. El-Nimri, S. Alsweiss, J. Johnson, W. L. Jones, Univ. of Central Florida (United States)

POSTER SESSION

TPDSci.com: a continually updated monograph of selected topics in the optics of turbid media [7678-34]
J. Depa, M. Jonasz, TPDSci Inc. (Canada); W. Hou, U.S. Naval Research Lab. (United States)

Author Index