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# ***Fiber Optic Sensors and Applications XII***

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*Editors*

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## Introduction

Fiber Optic Sensors and Applications XII is the latest installment in the SPIE Defense and Security Sensing conference on fiber optic sensors. Since shortly after the development of commercially viable optical fibers for communications applications, creative individuals have sought to use these fibers for sensing a wide variety of chemical, biological and physical quantities. Now after approximately 40 years of development, fiber optic sensors have found wide applicability in many application areas worldwide and numerous companies are now involved in the commercial development and deployment of these sensors. Active research still continues to improve the performance of these sensors and expand even further the conditions under which these sensors can be utilized as well as enhancing the time scale, sensitivity and long term performance.

These Proceedings includes a rich assortment of invited papers in areas including ultra fast measurements of explosive detonations, subsurface measurement, biological application, and single crystal sapphire harsh environment applications. Additional papers focused on specialty fibers for sensor applications including those based on single crystal sapphire; Bragg Grating sensors; high radiation level sensor applications; oil and gas applications; drug release and other biological monitoring; and composite cure monitoring applications. This proceedings delivers a broad array of fiber optic sensor technologies applied to a diverse set of application requirements. We hope that this volume proves useful to those intending to learn more about fiber optic sensors and the innovative work which continues to be conducted in this field

**Gary Pickrell  
Eric Udd  
Henry H. Du**

