

# INNOVATIVE DIAGNOSTIC TECHNIQUES FOR POLYMERS AND COMPOSITES: FULL FIELD OPTICAL AND SPECTROSCOPIC APPROACHES

**Welcome:**

P. Ferraro, G. Mensitieri, C. Carfagna

**Guests:**

Dr. Roger Groves - Delft University of Technology,  
*NDT in manufacturing and Low-frequency ultrasonic Lamb wave detection of barely visible impact damage in composites*

Dr. Marc Georges - Centre Spatial de Liège (Université de Liège),  
*Infrared holographic interferometry for metrology of space payloads and NDI by optical-laser techniques for aeronautical composites.*

**Col patrocinio del:**



**Mercoledì 25 Febbraio**

**2015, ore 10:00**

*Sala Conferenze piano 0, Via Campi  
Flegrei 34, Pozzuoli.*



**DARES SRLS**



Posti limitati, per la registrazione inviare  
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## Innovative diagnostic techniques for polymers and composites: full field optical and spectroscopic approaches

Dove: Area delle Ricerca CNR NA3, Pozzuoli

Quando: 25 Febbraio

Organizzatori: P. Ferraro (CNR-ICIB), G. Mensitieri (DICMaPI), C. Carfagna (CNR-IPCB)

Ospiti:

Dr. Roger Groves - Delft University of Technology, che parlerà di:

*NDT in manufacturing and Low-frequency ultrasonic Lamb wave detection of barely visible impact damage in composites.*

Dr. Marc Georges - Centre Spatial de Liège (Université de Liège), che parlerà di:

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Nel corso della giornata ci sarà la partecipazione di soggetti che provengono da diverse esperienze, quali enti di ricerca, università e aziende per offrire la possibilità di un confronto di alto profilo tecnico sui temi indicati e consentire un'opportunità di conoscenza di competenze e risorse strumentali presenti sul territorio.

Causa posti limitati, si prega di registrarsi inviando una mail a: [v.formicola@cib.na.cnr.it](mailto:v.formicola@cib.na.cnr.it)

### Programma

- |           |  |
|-----------|--|
| Ore 10:00 | Benvenuto e introduzione alla giornata: P. Ferraro, G. Mensitieri, C. Carfagna   |
| 10:10     | G. Mensitieri <i>"Brief overview on vibrational spectroscopy and thermodynamic approaches to the investigation of durability of polymers and composites"</i> |
| 10:20     | P. Ferraro <i>"Trends in photomechanics"</i>   |
| 10:30     | C. Carfagna <i>"CNR-IPCB"</i>  |
| 10:40     | M. Georges   |
| 11:10     | M. Iannone, Alenia <i>"Structural health monitoring in Finmeccanica Alenia-Aermacchi: description and need"</i>  |
| 11:25     | <i>Coffee break</i>  |

- 11:40 V. Pagliarulo, CNR-ICIB *"Full-field interferometric tools for composite and polymeric materials"*
- 11:55 A. Martone CNR-IPCB *"SCYPRI project: Monitoring by FBG sensors of the autoclave process induced deformation in composite thick parts manufacturing"*
- 12:10 R. Teti, DICMaPI *"Ultrasonic Nondestructive Evaluation for Advanced Applications"*
- 12:25 G. Cavaccini, DARES SRLS *"Actual trends in NDT for polymers and composites in automotive applications"*
- 12:40 D. Capitani, CNR-ICM *"NMR methodologies for the study of polymeric and composite materials"*
- 12:55 P. Musto, CNR-IPCB, *"Vibrational spectroscopy approaches to investigate polymer durability at the molecular level"*
- 13:10 M.E. Errico CNR-IPCB: *"Polymer/filler interface in composites: insights from solid state NMR"*
- 13:25 *Pausa pranzo*
- 14:30 R. Groves
- 15:00 I. Rendina, CNR-IMM *"Fiber bragg grating sensing techniques: a concrete application to Avionics"*
- 15:15 G.P. Pepe CNR-SPIN *"EM techniques for nondestructive analyses on composite materials"*
- 15:30 P. Maddalena, DSF *"High spatial resolution optical microscopy for the analysis and treatment of polymeric and composite films"*
- 15:45 G. Gentile, CNR-IPCB *"Characterization of polymers and composite materials by electron microscopy"*
- 16:00 S. Iannace CNR-IPCB *"Innovative diagnostic techniques in foamed materials"*
- 16:15 *Conclusioni*