



Technology Transfer Workshop on  
Advanced Techniques in NonDestructive Testing  
Sozopol, June 18-19, 2015



Organized by Institute of Information and Communication Technologies  
Bulgarian Academy of Sciences  
in association with Bulgarian Society for Non-Destructive Testing



The workshop is devoted to advanced techniques for non-destructive testing. The topics of interest include but are not limited to:

- Digital Radiography
- Industrial CT Scanning
- 3D Laser Scanning
- Acoustic Holography and Beamforming
- Thermography
- Nanoindentation
- Assessment of the mechanical properties of materials

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**Venue:** Bulgarian Red Cross Educational Center, Sozopol

The workshop is organized as associated event to the conference NDT Days 2015  
([http://www.bg-s-ndt.org/NDT\\_conference.html](http://www.bg-s-ndt.org/NDT_conference.html))

# Scientific program

Thursday, June 18

**13:30 – 14:00** Registration and Opening

**14:00 – 18:00** Chairman: I. Georgiev, E. Gorkunov

**Keynote talk:** Горкунов Э.С.

*Магнитные методы оценки макро и микронапряжений в ферромагнитных материалах*

Мушников А.Н., Горкунов Э.С., Задворкин С.М., Владимиров А.П.

*Влияние механических напряжений на скорость распространения волны Релея в сталях при объемном напряженном состоянии.*

Саврай Р.А., Макаров А.В., Горкунов Э.С., Коган Л.Х., Соболева Н.Н., Малыгина И.Ю., Осинцева А.Л.

*Особенности электромагнитного контроля усталостной деградации при контактном нагружении хромоникелевых покрытий, сформированных методом газопорошковой лазерной наплавки*

Путилова Е.А., Горкунов Э.С., Задворкин С.М., Миховски М.

*Возможности магнитных методов для оценки текущего состояния коррозионностойких сталей, подвергнутых упругопластическому деформированию.*

Пудов В.И., Соболев А.С., Драгошанский Ю.Н.

*Оптимизация физических свойств кольцевых трансформаторных магнитопроводов при термомагнитном воздействии*

Горкунов Э.С., Субачев Ю.В., Поволоцкая А.М., Задворкин С.М., Иванова Й.

*Влияние исходного напряженно-деформированного состояния на поведение магнитных характеристик трубных сталей при упругом деформировании*

Chirikov V.A.

*Aanalysis of universal relation for natural frequencies of stubby free-free beams transversal vibration*

Yankov R.

*Mechanical characterization of materials on nanoscale, experimental-numerical approach*

Zamphirova G.

*Microindentation method for evaluation of the mechanical properties in materials*

Ivanova Y., Partalin T., Pashkuleva D.

*Acoustic investigation of the low carbon steels during tensile*

Manoach E.

*Vibrational methods for damage detections*

**18:00 – 18:30** Poster session

**Friday, June 19**

**8:00 – 12:00 Chairman: I. Georgiev, Al. Skordev**

Karastoyanov D.

*SmartLab equipment in the project AComIn: Advanced Computing for Innovation*

Skordev Al.

*Digital Radiography*

**Keynote talk:** Zolotarev S.

*3D Iterative Conical and Spiral Tomography, Laminography, Tomographic Mammography and Tomosynthesis using Open GL*

Georgiev I.

*Industrial CT scanning applications in porosity and inclusion analysis*

Sabadosh L., Yacenko S., Shumejko, Litvin O., Pershina U., Hurdej E.

*Industrial x-ray computed tomography of the NDT diagnostic of large products*

Gyoshev St.

*Contactless measurement of dynamic characteristics (speed, acceleration) and vibration with high speed camera*

Stoimenov N.

*Applications of thermography contactless testing*

Afzali J., Dimitrov D., Georgiev I., Gyoshev St.

*Assessment and diagnostics of computer hardware performance by thermography and digital radiography*

Kudriashov V.

*Resolution enhancement of acoustic source localization*

Chyrka I.

*Near-field holography*

Georgiev I., Pirinski V.

*Application of 3D laser scanning in inspection and reverse engineering*

Jakimovska K.

*Vehicle safety benefits of composite vehicle roadworthiness performance index*

**12:00 – 12:30 Panel discussion and closing**