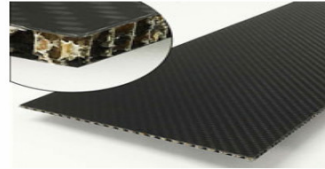
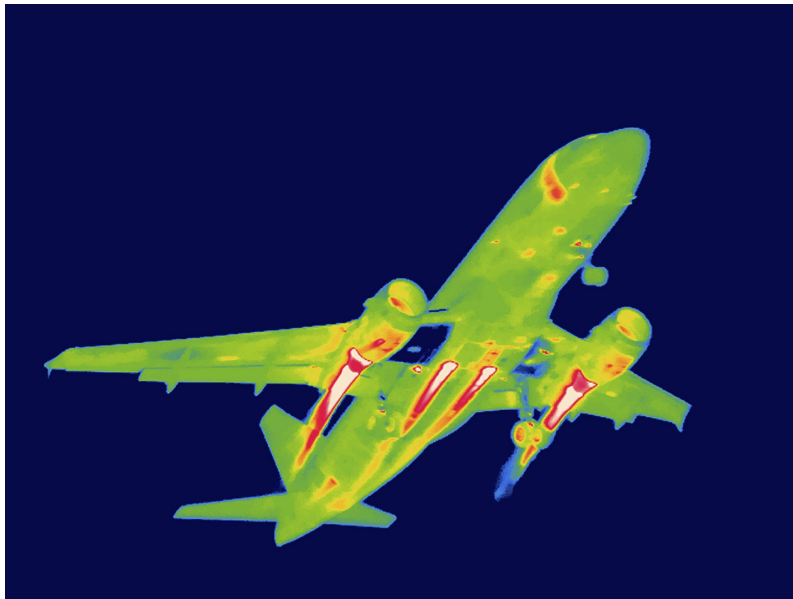


23 April 2022



2022 - Non-Destructive Evaluation of Composite Structures
Tetouan, Morocco



**Program of the
Second International Conference on Non-
Destructive Evaluation of Composite Structures
(NDECS'2022)**

to be held *in virtual mode* on the 23rd of April 2022 at the
National School of Applied Sciences - Tetouan, Morocco

Program

Horary is given according to the actual Moroccan time which is the same as GMT and equal to ECT minus 2 hours.

- 9:00** **Opening ceremony** of the conference and welcome speech
- 9:20** **First keynote lecture by Ichchou Mohamed Najib (France):**
Machine Learning based Structural Health Monitoring for Composites structures
- 10:00** **Second keynote lecture by Shamass Rabee (United Kingdom):**
The use of BFRP in reinforced concrete members
- 10:40** **Third keynote lecture by Musab Rabi (Jordan):**
Flexural behaviour of stainless steel reinforced concrete beams
- 11:20** **Fourth keynote lecture by Lagziri Hajar (Morocco):**
The effect of thermal boundary conditions on the Horton-Rogers-Lapwood problem with the lack of the local thermal equilibrium regime
- 12:00** **Fifth keynote lecture by Benzeroual Hajar (Morocco):**
Detection of rail surface defects based on laser technology
- 12:40** Pause
- 13:00** **Parallel sessions***
- 17:00** **Closing ceremony**

* See the following pages for the program of sessions

Program of sessions

Session 1:

Chairmen: Mohammed Bezzazi, Mariem Achbal

- 13:00 **BachiriTahar**, Hamdaoui Mohammed, Alsharahi Gamil, Bezzazi Mohammed, Faize Ahmed, *Condition assessment of rebars corrosion in bridge deck by using GPR data and artificial neural networks.*
- 13:20 **BachiriTahar**, Hamdaoui Mohammed, Alsharahi Gamil, Faize Ahmed, Bezzazi Mohammed, *Examining GPR based detection of defects in RC builds.*
- 13:40 **LahcenMountassir**, *Non-destructive diagnosis of osteoporosis by ultrasound method.*
- 14:00 **Abdelhamid Noufid**, Nadia Hidar, El Afi Mohamed, Mbarek Feddaoui, *Thermal Nondestructive Characterization of Rail Networks by Use of Infrared Thermography and Method of Finite Elements.*
- 14:20 **Pascal Dore**, Saad Chakkor, Ahmed El Oualkadi, *Real time fault bearing detection and diagnosis in rotating induction machines using super resolution methods.*
- 14:40 **Fatima El Mennaouy**, Issam Nakkach, Ouadia Mouhat, *The non-destructive evaluation of steel rebar corrosion in concrete beams using the elastic waves.*

Pause

Chairmen: Ali Limam, Khawla Essassi, El Houssaine Ouacha

- 15:20 **El Houssaine Ouacha**, Bouazza Faiz, Hicham Banouni, Hassan Biti, Nabil Khatib, *Ultrasound monitoring of setting and hardening of the gypsum board.*
- 15:40 **Abbassi Abdellatif**, Britel Mohammed Reda, Dkiouak Rachid, Karl Hasselbach, Zhao-Sheng Wang, *Ultrasound Measurements on iron superconductors $BaFe_{2-x}Ni_xAs_2$ crystals.*
- 16:00 **Abdeslam Aoukili**, *Effect of sensor shape on the equivalent impedance signature for the detection of defects using eddy current testing.*

Session 2:

Chairmen: Fadoua El Khannoussi, Hilal Essaouini

- 13:00 **Oumayma Oulidi**, Asmae Nakkabi Mohamed Fahim, Noureddine Elmoualij, *Natural hydrolytic ageing of PA6 and bio-reinforced composites.*
- 13:20 **Bilal Benmasaoud**, Hilal Essaouini, Ahmed Hamydy, *Numerical Simulation of a Heterogeneous Liquid in a 2-D Rectangular Container.*
- 13:40 **Abdelhadi Belahsen**, Hilal Essaouini, Ahmed Hamydy, *The Effect of Heterogeneity on the Sloshing of an Ideal Liquid in a Rectangular Tank.*
- 14:00 **Hasnaa Haidara**, Houda Bouchafra, Mourad Rafik, Miloud El Karbane, El Ghalia Hadaji, Taoufiq Saffaj, Abdeslam Bentama, Bouchaib Ihssane, *Comparison of the ISO-GUM approach and the total error approach for estimating measurement uncertainty: Application to the chromatographic assay of four statins in a dry form.*

Pause

Chairmen: Narjisse Amahjour, Zakia Ngadi

- 15:20 **Somia Fellak**, Mourad Rafik, Abdelhadi El Hassani, *The potential of ATR-FTIR spectroscopy in the study of lignocellulosic fibers structure of Maritime pine wood materials during natural weathering.*
- 15:40 **Somia Fellak**, Mourad Rafik, Meryem El Hajjam, Abdelhadi El Hassani, *Electron dispersive X-ray Spectroscopy (EDX) Measurements and Scanning Electron Microscopy (SEM) Examination of the Surface of softwood Attacked by Fungus.*

Session 3:

Chairmen: Rabee Shamass, Ikram Abarkan

- 13:00 **Nadia El Abbas**, Bezzazi Mohammed, *Structural analysis of reinforced concrete building accounting for the number of stories, local uplift, soil plasticity and seismic magnitude.*
- 13:20 **Bouraida El Yamouni**, Fadoua El Khannoussi, *Numerical modeling of reinforced concrete gravity retaining wall under seismic loads.*
- 13:40 **Tahiri Mohamed**, Bezzazi Mohammed, *Track-bridge interaction effect on the train-bridge resonance of railway viaducts.*
- 14:00 **Reda Bouziyane**, Abdelali El-Bakari, *Control of slope stability following rain fall by the observational method.*
- 14:20 **Rabee Shamass**, Ikram Abarkan, *Fire Resistance and Flexural Strength of One-Way Spanning Concrete Slabs Reinforced with Basalt FRP.*
- 14:40 **Chayma El Mtili**, Loubna Lehsissen, *A comparative study on seismic performance of a regular building reinforced by steel rebars, SMA rebars or SMA X-bracers mounted in the first stories.*

Pause

Chairmen: Othmane Bendaou, Naima Jouilel, Musab Rabi

- 15:20 **Achraf Allalan**, Loubna Bounab, Fadoua El Khannoussi, *Non-destructive methods applied in deep foundations.*
- 15:40 **Said El Hankari**, Dkiouak Rachid, Khalid Roky, *Resonance and cancellation phenomena in partially clamped simply supported beam bridges under moving trains.*
- 16:00 **Ferdaous Tribak**, Othmane Bendaou, Faycal Bennejma, *Impact of orbit inclination on heat transfer in a CubeSat 1U in LEO.*
- 16:20 **Bouras Siham**, Sabri Attajkani, *Predicting the ultimate loading capacity curve of RC members externally strengthened by bonded FRP sheets.*

Session 4:

Chairmen: Mohamed Najib Ichchou, Ikram Feddal

- 13:00 **Ahmed Bouchikhi**, Abderrahmane Bakkali, Mustapha Ouardouz, *Prediction of the macroscopic behavior of multilayered elastic composites.*
- 13:20 **Xuefeng Li**, Mohamed Ichchou, Christophe Droz, Abdel-Melk Zin, Nouredine Bouhaddi, *Algebraic wavenumber identification method in presence of uncertainty.*
- 13:40 **Fatima Zahra Kharchich**, Abdellatif Khamlichi, *Optimizing composite tandem junction solar cells for maximum conversion efficiency under one-sun and AM1.5G spectrum at 300K.*
- 14:00 **Loukmane El Khaldi**, Mustapha Sanbi, *Numerical Analysis of the Dispersion of Acoustic Rayleigh Waves in a Functionally Graded Piezoelectric Half-Space.*
- 14:20 **Houcine Zniker**, Bennaceur Ouaki, Said Bouzakraoui, Mohamed Ebntouhami, Hicham Mezouara, *Comparative study of energy Absorption capability and damage behavior of GFRP laminated and PVC-foam sandwich composites under repeated impacts.*

Pause

Chairmen: Abderrahmane Bakkali, Ouadia Mouhat, Abdelali El-Bakari

- 15:00 **Ikram Feddal**, Ouadia Mouhat, *Effect of geometric imperfections on buckling behaviour of delaminated composite plates.*
- 15:20 **Abdellatif Khamlichi**, Francisco Mata Cabrera, *Optimizing impact strength of laminate hybrid interply composites made of epoxy reinforced by continuous carbon and natural fibers.*
- 15:40 **Salah Nissabouri**, Moussa Mekkaoui, Mhammed El Allami, Hassan Rhimini, Abdellah Zamma, *Semi-Analytical Finite Element Method for calculating dispersion curves of CFRP plate.*
- 16:00 **Houyouk Jacob**, Manyo Manyo Jacques Antoine, Ntamack Guy Edgar, Azrar Lahcen, *Reflection and transmission coefficients of the periodic thermoelastic multilayer structures with effect of interface based on the Pseudo-formalism of Stroh.*

Session 5:

Chairmen: Rachad Oulad Ben Zarouala, Mustapha El Hadri, Loubna Bounab

- 13:00 **Hanane Ziani**, Farid Ben Abdelouahab, Mustapha El Hadri, *Theoretical investigation of electronic-structure properties of black phosphorene from first-principles calculations.*
- 13:20 **Noura Chouaimet**, Farid Ben Abdelouahab, El Hassan El Harouny, *First principles study of structural and electronic properties of 2D Transition metal dichalcogenides.*
- 13:40 **Hajar Saadi**, El Houssine Atmani, Nejma Fazouan, *Innovative approach for the synthesis of zinc oxide nanomaterials (ZnO).*
- 14:00 **Mourad Rafik**, Hasnaa Haidara, Mouna Azogagh, Rachid Hsissou, Mohamed Rafik, Mouhcine Sfaira. *Synthesis of epoxy prepolymer as a novel anticorrosive material for aluminum alloy in HCl 1M solution: Characterization and electrochemical studies.*
- 14:20 **Sara Orkhis**, Fatima Zahra Bougueraa, Hamza Essoussi, Said Ettaqi, *Development of chitosan-based composites reinforced with natural fibers for packaging applications.*

Pause

Chairmen: Loubna Lehssissen, Hajar Benzeroual

- 15:00 **Moaad Gharous**, Mohamed Choukairi, Dounia Bouchta, Loubna Bounab, *Nanomaterial modified electrodes: Elaboration and application in electroanalysis.*
- 15:20 **Dounia Tlamsamani**, Mbark Ait Mouha, Siham Slassi, Khalid Yamni, *Quantitative Phase Analysis of Anhydrous Clinker Portland using Rietveld Method.*
- 15:40 **Mohammed Gounzari**, Youssef Belkassmi, Abdelhadi Kotri, Mohamed Bouzelmad, Mashallah Rezakazemi, *Surface effect of nanoporous on mechanical properties of Ti₃C₂ MXene membrane, a Molecular Dynamics study.*