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691688 LASIG-TWIN: LASER IGNITION – A TWINNING COLLABORATION FOR FRONTIER RESEARCH IN ECO-FRIENDLY FUEL-SAVING COMBUSTION

Workshop 1: HISTORY, STATUS AND FUTURE OF LASER IGNITED COMBUSTION ENGINES

29-30 September 2016

National Institute for Laser, Plasma and Radiation Physics, Magurele, Bucharest 077125, ROMANIA



Ernst WINTNER, Professor Emeritus

EARLY ACHIEVEMENTS, DEVELOPMENTS, SOLUTIONS AND CURRENT CHALLENGES IN LASER IGNITION



Radu CHIRIAC, Professor Dr.

THE EFFECTS OF IGNITION DISCHARGE PARAMETERS ON COMBUSTION OF HOMOGENEOUS MIXTURES IN ENGINES



Gerhard KROUPA

LASER IGNITION FOR SPACE PROPULSION – I -



Michael BÖRNER

LASER IGNITION FOR SPACE PROPULSION – II -



Geoffrey DEARDEN, Professor Dr.

AUTOMOTIVE APPLICATIONS – I -



Traian DASCALU, Dr.

Adrian BIRTAS, Dr.

AUTOMOTIVE APPLICATIONS – II -



Geoffrey DEARDEN

Mark BÄRWINKEL

TECHNOLOGICAL CHALLENGES FOR THE APPLICATION OF LASER IGNITION



Erik BECKERT, Dr.

**TEAMS IN LASIG-TWIN TACKLING TECHNOLOGICAL CHALLENGES
STANDARDIZATION, LEGISLATIVE, POLITICAL AND SOCIAL ETHICAL CHALLENGES FOR LASER IGNITION**

LASIG-TWIN

PARTNERS:

- NATIONAL INSTITUTE FOR LASERS, PLASMA AND RADIATION PHYSICS (INFLPR-RA), MAGURELE, ROMANIA
- UNIVERSITY OF BAYREUTH (UBT), FACULTY OF ENGINEERING SCIENCE, ENGINEERING THERMODYNAMICS AND TRANSPORT PROCESSES GROUP, BAYREUTH, GERMANY
- THE UNIVERSITY OF LIVERPOOL (UL), SCHOOL OF ENGINEERING, LIVERPOOL, UNITED KINGDOM
- CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS), LABORATOIRE EM2C - ENERGÉTIQUE MOLÉCULAIRE ET MACROSCOPIQUE COMBUSTION, CHÂTENAY-DALABRY, FRANCE
- FRAUNHOFER INSTITUTE FOR APPLIED OPTICS AND PRECISION ENGINEERING (IOP), MICRO-ASSEMBLY AND SYSTEM INTEGRATION, JENA, GERMANY

- The objective of LASIG-Twin is to create a networking collaboration between the Romanian National Institute for Laser, Plasma and Radiation Physics (INFLPR) and its Laboratory of Solid-State Quantum Electronics (ECS) and four other high renowned institutes from Germany, the UK and France, providing a unique opportunity for INFLPR and its partners to significantly increase their science excellence and visibility, technology innovation capacity and industrial exploitation capability in the fields of laser spark plug for fossil fuel efficient combustion fundamentals and applications.
- The project will focus on the key target actions of composing: a) Teams of Excellence; b) A Training and Lecturing Program and the Roadmap for a future collaboration; c) Organizing short term Staff Exchanges (Training) and Expert Visits (Lectures) that will help raise INFLPR's research profile as well the one of the partnering institutes; d) Organize two public Summers School type activities, internal and external expert driven Technology Workshops and Business-to-Business (B2B) meetings in conjunction with industry and academia clusters, and finally e) Bringing the world-renowned Laser Ignition Conference (LIC) in 2017 to the INFLPR in Romania to increase INFLPR's, the Romanian and the European visibility in the fields of Laser Ignition.
- The technological topic addresses the major challenge of mankind to lower the carbon footprint by efficient energy usage, thus LASIG-Twin will also have a significant social impact. Dissemination will take care of this aspect by bringing the networking ideas to a broad public, from experts, the science community and industry stakeholder organization, to the interested, nonprofessional crowd, making society more aware of the importance of fuel efficiency and of the effects of EU funded Research and Development.

