



ELECTRONIC PARTNERING CATALOG ON ENERGY THEME



The EUINEC project, in cooperation with EIRC Consulting Private Limited (EIRC) and Dayananda Sagar Institutions (DSI) organised 1-day training on how to obtain funding from the European Commission and how to participate in European projects. The training is focused on ICT and Energy themes and will be held in Bangalore (India) the 2nd of February 2010.



The Catalogue will be presented during this event with the aim to facilitate the creation of partnership for future cooperation between Europe and India.

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DR. BRIGITA ABAKEVICIENE, KAUNAS UNIVERSITY OF TECHNOLOGY, LITHUANIA

ORGANISATION DETAILS					
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Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department					
Short description of your company/organization	<p style="margin: 0;">Kaunas University of Technology (KTU), the largest technical university in the Baltic States, is the second largest institution of higher education of Lithuania. More than 18 thousand undergraduate (B.Sc.) and 500 graduate (Ph.D.) students are enrolled in KTU's eleven faculties. Undergraduates have a choice of 36 majors, and graduate students may choose among 65 graduate areas of study leading to the Master's degree and among 17 graduate areas of study leading to the Ph.D. degree. KTU is a member of well-known international research and educational organisations: European University Association (EUA), International University Association (IUA), UNESCO International Centre for Engineering Education (UICEE), Conference of European Schools for Advanced Engineering (CESAER), European Association for International Education (SEFI), and others. The University has signed 70 agreements of cooperation with various foreign institutions.</p> <p style="margin: 0;">The Institute of Physical Electronics of Kaunas University of Technology (KTU FEI) is an associated research institute. Major research activity of KTU FEI are nanotechnologies (thin films and surface engineering (physics and applications), application of ion and plasma methods for formation of nanostructures and nanomaterials) and optical document security (microoptical elements, interference filters, development of new materials and structures). During the last years the Institute was involved in many national, European (FP6, Eureka, COST, Nexus) and international projects (NATO CLG).</p>				
PARTICIPANT					
Gender	<input type="checkbox"/> Mr	<input checked="" type="checkbox"/> Ms		Title Dr.	
First name	BRIGITA				
Last name	ABAKEVICIENE				
Position	PostDoctoral Researcher				
Areas of activity (<i>Free keywords</i>)	Plasma spray, Sol-gel, Electrodes for solid oxide fuel cells (SOFC)				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Composite coatings for electrodes for solide oxide fuel cells				

Short description of project	Preparation of YSZ-NiO-Ni plasma sprayed cermet coatings for anode supported solid oxide fuel cells and investigation of microstructure, elemental composition, electrical properties of coatings.
Description of expertise offered	<p>Available facilities and technologies that can be used:</p> <ul style="list-style-type: none"> • Photoluminescence measurements using He-Cd laser • Traditional technologies of thin film deposition like vacuum evaporation (electron beam, thermal), magnetron deposition, plasma spray, RF plasma enhanced CVD as well as DC ion beam synthesis; • Langmuir-Blodgett through for monolayer film deposition; • Dry etching capabilities including reactive ion etching and direct ion beam etching; • Microlithography equipment such as mask alignment and UV exposure systems can be applied for formation of different porous silicon based microstructures; • Interference lithography using He-Cd laser; • Imprint lithography and replication technology including Ni shim production; • Laser interferometry, electronic speckle pattern interferometry combined with the microtensile equipment for studies of mechanical properties of thin films and microstructures; • Surface analysis techniques including XRD, SEM, AFM, ESCA, X-ray fluorescence, laser ellipsometry, UV, visible and IR spectroscopy; • Electrical characterization including four probes measurements, I-U, C-V measurements; • Mechanical properties analysis including Rockwell testing as well as computer controlled scratch testing. • Microtensile testing of thin films and multilayers.
Description of requested partner expertise	Transmission electron microscopy (TEM), Electrical conductivity measurements, Mass spectrometry

PROF. FEHIME CAKICIOGLU OZKAN - IZMIR INSTITUTE OF TECHNOLOGY, TURKEY

ORGANISATION DETAILS					
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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +	
Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Chemical Engineering				
Short description of your company/organization	University				
PARTICIPANT					
Gender	<input type="checkbox"/> Mr	<input checked="" type="checkbox"/> Ms	Title Assoc.Prof.		
First name	Fehime				
Last name	Cakicioglu-Ozkan				
Position	Faculty				
Areas of activity (Free keywords)	Adsorption, porous material, gas separation , storage, CO2, H2, CH4, H2O, capture				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Separation of Hydrogen from The Reformer Off-Gas				
Short description of project	Hydrogen is regarded as an important energy carrier with a fuel cell as its converter. Hydrogen gas can be produced from reforming of natural gas, ethanol, methanol and biomass. In this project we are planning to purify hydrogen rich (60-80%v/v) reformer off-gas by using layered adsorption column.We have home-made volumetric adsorption system to obtain equilibrium adsorption isotherm of the pure and multi component .Effect of bed height and layer height and operation condition on the performance of the column will be studied in this project				
Description of expertise offered	In this study metal organic frameworks will be produced for the adsorption of CO2.				
Description of requested partner expertise	Material science and engineering				

PROF. XUYUAN CHEN, VESTFOLD UNIVERSITY COLLEGE, NORWAY

ORGANISATION DETAILS					
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Organisation type	<input checked="" type="checkbox"/> University	<input checked="" type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Norwegian center of expertise for nano- and microsystems, Institute of nano-and microsystems technology				
Short description of your company/organization	HVE is a Norwegian University College. IMST conducts research and development within micro- and nanotechnology for microsystems.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Professor		
First name	Xuyuan				
Last name	Chen				
Position	Professor				
Areas of activity (Free keywords)	MEMS, MOEMS, BioMEMS, Sensors, Micropower, MEMS Battery,				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Beta voltaic battery and MOEMS for laser display technology				
Short description of project	Beta voltaic battery aims to develop a battery power for microsystems. The battery with longlife time and can work in the location where the wireless device is used and where is not easy accessible. The MOEMS for laser display technology aims to develop MEMS device for laser speckle reduction. The Project enable the innovation technology for information display in the future by using laser as a light source.				
Description of expertise offered	Micro- and nano fabrications, material and device development, device design, fabrication, testing and characterization				
Description of requested partner expertise	Partner who is interested in the Battery for microsystems and the laser display technology. The partners are working within the area of micro-and nanotechnology. The partner can conduct MEMS and Nano device design and simulation.				

DR. MICHAEL HIRSCHER, MAX PLANCK INSTITUTE FOR METALS RESEARCH, GERMANY

ORGANISATION DETAILS					
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Organisation type	<input type="checkbox"/> University	<input checked="" type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Modern Magnetic Materials				
Short description of your company/organization	The Max Planck Society for the Advancement of Science is an independent, non-profit research organization that primarily promotes and supports research at its own institutes. The MPI for Metals Research is one of these institutes working in the field of materials science.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Dr.		
First name	Michael				
Last name	Hirscher				
Areas of activity (Free keywords)	Hydrogen and gas storage, metal-organic frameworks (MOFs), microporous materials				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Nanoscale Materials for Hydrogen-Storage				
Short description of project	The major bottleneck for commercializing fuel cell vehicles is onboard hydrogen storage. Hydrogen may be stored in solids by two principle mechanisms: i) Adsorption of hydrogen molecules on surfaces, i.e., physisorption. ii) Hydrogen atoms dissolved or forming chemical bonds, i.e., chemisorption. Our present studies focus on novel nanoscale materials with high specific surface area and microporosity. Carbon nanostructures, as activated carbon or single-wall nanotubes, store only small amounts of hydrogen at room temperature, however, at low temperature the adsorption due to physisorption is appreciably higher and depends linearly on the specific surface area. These studies are extended to metal-organic frameworks (MOFs) which are the lightest known crystalline solids possessing an extremely large specific surface area and high microporosity.				
Description of expertise offered	Hydrogen adsorption and desorption measurements at various temperatures and pressures. Characterization of adsorption sites and heat of adsorption.				
Description of requested partner expertise	Cryo-adsorption techniques, building small test units. Synthesis of novel nanostructures with extremely high specific surface areas.				

DR. ENGIN KARATEPE, EGE UNIVERSITY, TURKEY

ORGANISATION DETAILS					
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Employees	<input type="checkbox"/> 1-10		<input type="checkbox"/> 11-50		<input checked="" type="checkbox"/> 51 - 250
Organisation type	<input checked="" type="checkbox"/> University		<input type="checkbox"/> Research Center		<input type="checkbox"/> Industry
Department Electrical-Electronics Engineering					
Short description of your company/organization	Ege University is currently composed of 11 Faculties, 5 Schools, 7 Vocational Schools, a State Conservatoire of Turkish Music, 8 Institutes, 6 Departments in special status and 26 Research and Application Centres. In 2008-2009 academic year, 11.641 associate, 27.114 undergraduate, 2.052 graduate, 467 specialists of Medicine and 1575 doctorate students, in total 42.849 students, are enrolled in Ege University. There are 3.284 teaching staff and 3.500 administrative staff in the University.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr		<input type="checkbox"/> Ms		Title Assistant Prof. Dr.
First name Engin					
Last name Karatepe					
Position Assistant Prof. Dr.					
Areas of activity (Free keywords) Distributed Power Generation, Renewable Energy Sources, Photovoltaic, Smart Power, Fuzzy-Logic, Artificial Neural Network, Electric Power System Analysis.					
PROJECT DESCRIPTION					
Title of your research project in one sentence	Smart Grid Network Integration				
Short description of project	The design and control of novel architectures, components and distributed energy sources solutions needed for future power network.				
Description of expertise offered	Electric Power System Analysis, Renewable Energy Sources, Distributed Power Generation, Smart Power				
Description of requested partner expertise	Distributed Power Network, Communication Network Integration				

DR. SANTHOSH KUMAR MATAR, SWISS FEDERAL LABORATORIES FOR MATERIALS TESTING AND RESEARCH (EMPA), SWITZERLAND

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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +	
Organisation type	<input type="checkbox"/> University	<input checked="" type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Laboratory for Solid State Chemistry and Catalysis				
Short description of your company/organization	Empa is an interdisciplinary research and services institution for material sciences and technology development within the ETH Domain. Its research and development activities are focussed on the fundamental and applied research to meet the requirements of industry and the needs of our society.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Dr.rer.nat.		
First name	Santhosh Kumar				
Last name	Matam				
Position	Scientist				
Areas of activity (<i>Free keywords</i>) Heterogeneous Catalysis, Perovskites, Exhaust gas treatment, Energy conversion, In situ and Operano Spectroscopy and Structure Activity Relation ships					
PROJECT DESCRIPTION					
Title of your research project in one sentence	The influence of chemical and thermal aging of real and model three way catalysts for the reduction of NOx and oxidation of CO and hydrocarbons from automobile exhaust				
Short description of project	The objective of the project is to understand the influence of chemical (phosporous) and thermal aging on the catalytic properties of model and real three way catalysts by advanced in situ and operando spectroscopic techniques.				
Description of expertise offered	Preparation, characterization and evaluation of catalysts/materials for environmental and energy related issues. In situ and Operando spectroscopy to characterize catalysts/materials to derive structure activity relation ships. The spectroscopic techniques include XAS (XANES and EXAFS), Raman, DRIFTS, UV-Vis, EPR and NMR.				
Description of requested partner expertise	Preparation, ex situ characterization and testing of catalysts/materials for energy and environmental related issues				

DR. HARRI LIPSANEN - AALTO UNIVERSITY - SCHOOL OF SCIENCE AND TECHNOLOGY, FINLAND

Organisation details					
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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50		<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +
Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Department of Micro and Nanosciences				
Short description of your company/organization	The Aalto University School of Science and Technology, previously Helsinki University of Technology is the oldest university of technology in Finland and a pioneer in the field of technology in the country: its fields of education and research cover all areas of technology that are of importance to the Finnish economy, including architecture. The School of Science and Technology is committed to the provision of high-quality education. We aim to equip our students with a firm foundation of knowledge needed in various fields of technology to enable their continuous professional development and ensure that they meet the requirements of an increasingly international operating environment.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms		Title Dr	
First name	Harri				
Last name	Lipsanen				
Position	Professor				
Areas of activity (<i>Free keywords</i>)	atomic layer deposition, light emitting diodes, solar cells, nanostructures				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Applications of atomic layer deposition in micro and nanostructures for solar cells and LEDs				
Short description of project	The research proposal focuses on experimental studies of novel nanostructures and nanomaterials especially for future sustainable electronics and photonics applications. The target is to contribute to environmentally friendly low-cost manufacturing of electronic devices such as advanced solar cells, light-emitting diodes and environmental sensors. Atomic layer deposition (ALD) is used in the processing of functional layers.				
Description of expertise offered	Expertise in clean room processing of device structures, ALD, lithography, materials research				
Description of requested partner expertise	Expertise in advanced LED and solar cell devices.				

PROF. PETER LUND, AALTO UNIVERSITY - SCHOOL OF SCIENCE AND TECHNOLOGY, FINLAND

ORGANISATION DETAILS					
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Employees	<input type="checkbox"/> 1-10	<input checked="" type="checkbox"/> 11-50		<input type="checkbox"/> 51 - 250	<input type="checkbox"/> 250 +
Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Department of Applied Physics				
Short description of your company/organization	New Energy Technologies Group is active in research and training in advanced energy systems. Focus areas are distributed (renewable) energy systems, solar cells and fuel cells. Nanotechnology for energy application is a growing interest area as well.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Professor		
First name	Peter				
Last name	Lund				
Position	Professor				
Areas of activity (<i>Free keywords</i>)	Nanotechnology for energy, solar cells, fuel cells, distributed energy systems,				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Pre-manufacturing technologies for large-area flexible DSC solar cells				
Short description of project	The main goal of the project is to produce flexible dye solar cells (DSC) in larger scale for electronics or similar smaller applications.				
Description of expertise offered	We have excellent basic know-how in materials, characterization and device physics of dye-solar cells for flexible substrates. Solar cell structures for minimodules have been designed and are under prototyping in lab scale.				
Description of requested partner expertise	We seek for partners who could have necessary know-how in printed electronics or equivalent that could be applied for manufacturing the DSC cell in a more industrial way and in larger scale (pre-manufacturing)				

PROF. ROBERT MAYER, GE GLOBAL RESEARCH , GERMANY

ORGANISATION DETAILS					
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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input checked="" type="checkbox"/> 51 - 250	<input type="checkbox"/> 250 +	
Organisation type	<input type="checkbox"/> University	<input checked="" type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	RESI				
Short description of your company/organization	Research Centre with focus on renewable energy systems and instrumentation. We are more than 100 scientists developing future technologies for our businesses within General Electric (GE). Specific research fields are system technologies: How to bring together existing components to operate as virtual power plants.				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Prof.		
First name	Oliver				
Last name	Mayer				
Position	Principle Engineer				
Areas of activity (Free keywords)	Solar, Wind, Biomass				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Optimization of renewable system technologies				
Short description of project	Analysis of the layout of today's utility scale power plant. Development of concepts for optimization in terms of cost, voltage range, size and design/layout. Definition of component requirements. Set up of a lifecycle concept.				
Description of expertise offered	Technology, processes for optimization. Skills in simulation, electric and mechanical design. Testing capabilities.				
Description of requested partner expertise	Technology for optimization of residential and utility scale PV systems: e.g. inverter topologies, monitoring, etc.				

TIZIANO PAPI, EUTEC SRL, ITALY

ORGANISATION DETAILS					
Organisation name EUTEC SRL					
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Employees	<input checked="" type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51 - 250	<input type="checkbox"/> 250 +	
Organisation type	<input type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input checked="" type="checkbox"/> SME	<input type="checkbox"/> Other
Department	BIOMASS				
Short description of your company/organization	<p>EUTEC is a consultant services company which transfers know how, plants desing and whole chain management. EUTEC company is expert in Agri-food, Energy and environmental technologies. Areas of interest:</p> <ol style="list-style-type: none"> 1) renewable energies sources 2) energy recovery units: combustion and energy production (heat and electric power - cogeneration) from biomass and waste 3) energy and high quality organic fertilizer by biogas integrated systems from specific crops agro industry waste and by products high technology composting plants – odour free 4) biomass chain to energy integrated system desing: energy and agronomic recovery of agro-industrial wastes as grapes, wine, distilleries, sugar factories, breeding farms, slaughtering houses, dairy industries, horticultural sector 5) production plants of calcium tartrate and tartaric acid 6) dairy industry, milk whey recovery, whey cristallization, whey flour 7) advanced gasification systems and thermal and electric power production; 8) biofuels production chain design and management. 9) technical partner in EU project FP V-VII. 10) Life Cycle Assessment Method application in energy chain to verify energy and environmental cost and benefits 11) Carbon footprint calculation in energy systems 				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title		
First name	TIZIANO				
Last name	PAPI				
Position	GENERAL MANAGER				
Areas of activity (<i>Free keywords</i>)	EUTEC offer the development of integrated bio refinery chains to energy, BIOGAS-GASSIFICATIO PROCES AND fertilizer and other different products to market with a complete renewable energy self production. The advantage of our methodology and application is a best optimization in terms of environmental, energetic and				

economical results.	
PROJECT DESCRIPTION	
Title of your research project in one sentence	Development of integrated bio refinery chains to energy.
Short description of project	<p>EUTEC offer the development of integrated bio refinery chains to energy. Integrated project collect biogas production from by-products from agricultural chains and by algae production.</p> <p>Energy production by gassification proces.</p> <p>Vegetable oil from algae.</p> <p>Productio of fertilizer and other different products to market with a complete renewable energy self production.</p> <p>The advantage of our methodology and application is a best optimization in terms of environmental, energetic and economical results.</p>
Description of expertise offered	<p>EUTEC is a consultant company born in 1995, it has a complete know how in Agri-food, Energy and environmental technologies.</p> <p>EUTEC is able to design, erect and start industrial or small plant as biogas and biofuel plant, bio refinery integrated systems. Moreover EUTEC assists and trains the personnel for plant running and management.</p> <p>EUTEC can provide:</p> <ul style="list-style-type: none"> • Preliminary, executive design of the whole chains • Project assessment and management • Process control and auditing • Staff teaching and assistance <p>EUTEC srl offer collaboration:</p> <ol style="list-style-type: none"> 1) technologies and know how transferring 2) new projects development 3) design and technological assistance 4) management assistance 5) research collaboration 6) European project development and partnership
Description of requested partner expertise	<p>investors in energy chain</p> <p>industrial algae expert</p>

MONICA SCHOFIELD, TuTECH INNOVATION GMBH, GERMANY

ORGANISATION DETAILS					
Organisation name TuTech Innovation GmbH					
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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50		<input checked="" type="checkbox"/> 51 - 250	<input type="checkbox"/> 250 +
Organisation type	<input type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input checked="" type="checkbox"/> Other
Department	Knowledge transfer company owned by Hamburg University of Technology and the Free and Hanseatic City of Hamburg.				
Short description of your company/organization	<p>TuTech was founded in 1992 as the first private knowledge transfer company formed by a German public university. Its mission is to promote effective transfer and exploitation of scientific and technical knowledge by providing a variety of services including research and industrial collaboration management; cluster management; support for technology business start-ups; and trans-national technology transfer supported by various European initiatives. From its roots in serving the TUHH, it is also now a shareholder for Hamburg Innovation – a service company serving Hamburg’s Higher Education Institutes (HEIs) in their research management and technology transfer needs. The company has a core staff of about 50 and a €15 Million turnover. The revenue comes from a mixture of a service contract grant from the TUHH, fees for contract management, project funding and consultancy. The business model is to be self-financing while acting in the public interest to support effective exploitation of research and innovation opportunities and management of inter-disciplinary projects. TuTech does not receive direct public funding.</p>				
PARTICIPANT					
Gender	<input type="checkbox"/> Mr	<input checked="" type="checkbox"/> Ms		Title	
First name	Monica				
Last name	SCHOFIELD				
Position	Director International Cooperation				
Areas of activity (Free keywords)	Renewable energy, biorefinery, biomass, industrial biotechnology				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Renewable energy forms, biorefinery in particular				
Short description of project	BIORAFFINERIE2021 Energy from biomass – new paths towards integrated bio-refinery - research into processes and materials to achieve an intergrated bio-refinery platform including processes for to produce bioethanol from biological waste and non-food plants as well as industrial chemicals..				
Description of expertise offered	Particular expertise in how to put together and manage highly interdisciplinary research projects in this and related fields.				
Description of requested partner expertise	Research teams working on related themes, especially those with industrial partnerships.				

PROF. CHAVDAR STOYANOV, INSTITUTE FOR NUCLEAR RESEARCH AND NUCLEAR ENERGY, BULGARIA

ORGANISATION DETAILS				
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Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +
Organisation type	<input type="checkbox"/> University	<input checked="" type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME <input type="checkbox"/> Other
Short description of your company/organization	<p>The Institute for Nuclear Research and Nuclear Energy of Bulgarian Academy of Sciences (BAS) is the largest Bulgarian institution for nuclear research and applications. The scientific and applied investigations carried out in the INRNE are connected with the modern world tendencies and technologies. The range of activities is extremely wide starting from the physics of elementary particles and atomic nuclei, reactor physics, radioactive wastes problems, dosimetry, radiation and nuclear safety, radiochemistry and radioecology, nuclear instrumentation and nuclear methods for nondestructive analysis, monitoring and management of the environment. INRNE has in its structure 3 scientific sub-centres as Nuclear experimental centre, Radioactive waste repository "Novi Han", and Basic environmental observatory on peak Moussala in Rila Mountain. A large computer network is available in INRNE. The network is based on the computer cluster of 14 dual-processors donated by CERN.</p> <p>INRNE has an important national responsibility like a Nuclear OPERATOR of Nuclear scientific research reactor and especially of Bulgarian national permanent repository for radioactive wastes "Novi Han". In this connection INRNE has important roles and responsibilities and is properly equipped as a member of National Emergency and Civil protection services. The scientific results obtained by the research teams of INRNE are published annually in more than 100 articles (predominantly in international journals). Most of the results are presented on international conferences. A large amount of these results has been obtained in close collaboration with international and foreign research centres, universities and institutions like CERN, JINR-Dubna, Karlsruhe, Julich, Orsay etc. Annually, INRNE is the main organiser of several international conferences and other international meetings. INRNE has 358 employees, including: 1 member of BAS, 3 corresponding members of BAS, 20 professors, 71 associated professors, and 108 other researchers; 108 have PhD and 30 DSc. scientific degrees.</p>			
PARTICIPANT				
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Professor	
First name	Chavdar			
Last name	Stoyanov			
Position	Head of Department Nuclear Physics			

Areas of activity (<i>Free keywords</i>) transmutation of nuclear nuclear waste, simulation of nuclear reactions, nuclear structure, nuclear reactions, gamma-specdtrscopy,	
PROJECT DESCRIPTION	
Title of your research project in one sentence	Transmutation of nuclear waste
Short description of project	<p>Experimental study of neutron production in thick targets irradiated with light relativistic beams</p> <p>The group is part of the collaboration “Energy plus Transmutation” of Laboratory of High Energy Physics in Joint Institute for Nuclear Research - Dubna The study is dedicated to the determination of the basic physical parameters of a subcritical reactor, having nuclear waste transmutation capabilities. During the experiments the lead target is irradiated by a relativistic proton- or deuteron beam, which is provided by the Nuclotron accelerator facility. The neutrons produced in spallation reactions of the primary beam with the target nuclei, induce afterwards fission reactions within the uranium assembly. In this way the neutron flux within the setup is increased, but it also yields an energy release, which is applicable for power production in future industry-scaled sub critical reactors. Prior to the irradiation, activation probes and solid-state nuclear track detectors are placed at different positions within the setup. Part of the probes contain radioactive compounds, which are present in spent nuclear fuel. After the irradiation using precision gamma-spectroscopy, the isotopes produced in all samples during the beamtime are identified and their amounts and production rates are determined. The lead samples have been positioned within the space hit by the primary beam. The obtained data provide quantitative information on the induced radioactivity in subcritical facilities employing thick lead targets, but also serve as a reference for the comparison with the predictions of simulation codes.</p>
Description of expertise offered	gamma spectroscopy with HPDE detectors, activation analysis
Description of requested partner expertise	Experience with particle transport and reaction simulation codes

PHD KONSTANTINOS VOUDOURIS, ARISTOTLE UNIVERSITY OF THESSALONIKI, GREECE

ORGANISATION DETAILS					
Organisation name Aristotle University of Thessaloniki					
Street * University Campus, Egnatia street					
ZIP * GR54124	City * THESSALONIKI		Country * GREECE		
Phone * +302310998041			Fax +302310998530		
Email * kvoudour@geo.auth.gr			Web www.geo.auth.gr		
Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +	
Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Geology				
Short description of your company/organization	<p>The Aristotle University of Thessaloniki was established in 1925. During the last 12 years 4,500 programmes were implemented by the University, in which over 10,000 University staff and external cooperators have participated. Within the framework of these programmes, there has been extensive cooperation with Universities, research centres and other bodies both in Greece and throughout Europe, as well as in other countries outside Europe.</p> <p>There are 45 Schools currently in operation within AUTH, which are organized into 12 Faculties. Some indicative figures are: 1,500 administrative personnel, 2,000 professors and researchers, 6,000 graduates per year, 110 post graduate courses, 550 Ph.D. per years.</p> <p>Laboratory of Engineering Geology & Hydrogeology Department of Geology, Aristotle University of Thessaloniki The Laboratory of Engineering Geology and Hydrogeology of the School of Geology was founded in 1991, dealing with engineering geology, hydrogeology (hydrological balance, groundwater quality, water resources management, water pollution), geothermy, and protection and management of the environment. It has participated in 50 applied research programs during the last years concerning water supply issues, sanitary solid waste landfills sites and relation to water aquifers, laboratory soil tests, hydrogeological studies, etc.</p> <p>Web site: www.auth.gr</p>				
PARTICIPANT					
Gender	<input checked="" type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title PhD		
First name	Konstantinos				
Last name	Voudouris				
Position	Assistant Professor				
Areas of activity (Free keywords)	Geothermy				
PROJECT DESCRIPTION					
Title of your research project in one sentence	Exploration and utilization of geothermy				

<p>Short description of project</p>	<p>Exploration and utilization of geothermy. Energy is one crucial issue in the world. The turn from fossil fuels to renewable energy is a step towards sustainable development.</p> <p>The exploitation of thermal energy of the water mass by using the technology of heats pumps is proposed. For this reason, the use of energy included in seawater for cooling and heating should be used.</p> <p>Sub-objectives</p> <ol style="list-style-type: none"> 1) Field research 2) Water pumping and pipes network 3) Control systems
<p>Description of expertise offered</p>	<p>Thermal water quality, Field research, Drilling technique</p>
<p>Description of requested partner expertise</p>	<p>Shallow geothermy</p>

PROF. NOWAK WOJCIECH, CZESTOCHOWA UNIVERSITY OF TECHNOLOGY, POLAND

ORGANISATION DETAILS					
Organisation name Czestochowa University of Technology					
Street * Dabrowskiego 69					
ZIP * 42-201		City * Czestochowa		Country * Poland	
Phone * + 48 34 3250 933			Fax + 48 34 3250 933		
Email * wnowak@is.pcz.czyst.pl			Web www.is.pcz.czyst.pl		
Employees	<input type="checkbox"/> 1-10	<input type="checkbox"/> 11-50		<input type="checkbox"/> 51 - 250	<input checked="" type="checkbox"/> 250 +
Organisation type	<input checked="" type="checkbox"/> University	<input type="checkbox"/> Research Center	<input type="checkbox"/> Industry	<input type="checkbox"/> SME	<input type="checkbox"/> Other
Department	Faculty of Environmental Protection and Engineering				
Short description of your company/organization	<p>The Czestochowa University of Technology in the 60th year of its operation is an advanced, well-equipped higher education school with an extensive educational offer and high standard of education. It is the oldest and biggest higher education institution in the region. Today, Czestochowa University of Technology is attended by about 16,000 students in the following 6 Faculties:</p> <ul style="list-style-type: none"> • The Faculty of Mechanical Engineering and Computer Science • The Faculty of Materials Processing Technology and Applied Physics • The Faculty of Electrical Engineering • The Faculty of Civil Engineering • The Faculty of Environmental Protection and Engineering • The Faculty of Management <p>Students can choose from almost 90 specialties in 18 fields of studies. Three Faculties have full academic rights. In 5 scientific fields the School has a right to confer habilitated doctor (assistant professor) degree, in 8 doctor of technical sciences and in 1 doctor of economic sciences.</p> <p>Czestochowa University of Technology offers doctoral studies which are now attended by more than 330 students. The School employs over 1,500 people; 885 of them are academic teachers, including 170 professors and habilitated doctors (assistant professors).</p> <p>In the academic year 2009/2010, the European Faculty of Engineering will open courses of studying in the following fields:</p> <ul style="list-style-type: none"> - Biotechnology for Environmental Protection (BEP) - Business and Technology (BT) - Computer Modelling and Simulation (CMS) - Intelligent Energy (IE) <p>FACULTY OF ENVIRONMENTAL PROTECTION AND ENGINEERING</p> <p>Organisation Structure</p> <ul style="list-style-type: none"> - Institute of Environmental Engineering - Department of Chemistry, Water and Waste Water Engineering - Department of Energy Engineering - Department of Heating, Ventilation and Air Protection <p>Directions of the teaching</p> <ul style="list-style-type: none"> - environmental engineering - environmental protection - energetics <p>ENERGY RESEARCHES AREA</p>				

- technology of dry and simultaneous desulphurization and denitrating in the circular layer of fluid
- clean combustion of coal in the circular layer of fluid
- study of modified calcium sorbents for dry flue gas desulphurization
- research on the process of fluidized bed combustion of biomass mixtures and low-quality coal
- experimental two-phase flow analysis of grain-gas using optical techniques
- research on disposal and management of carbon dioxide from the flue gas boiler using zeolites
- macular metrology in the measurement of convective heat exchange
- researches on the flow of granular materials in the circular layer of fluid
- emission test for PM 2.5 and PM 10 in the combustion process of biomass in the circular layer of fluid
- optimization of working circuits with circular layer of fluid through the test of: aerodynamics of circular layers of fluid and CWF system elements, the mechanism and kinetics of fuel combustion, kinetics of sorbents sulphurization, model and numerical studies of systems and CWF system elements, the heat exchange in the fluid layer.
- development of alternative sorbents technologies for dry methods of flue gas desulphurization, mechanical activation of calcium sorbents and their mixtures with fly ash from fluidized bed boilers.
- efficient use of renewable energy, including: integrated, intelligent systems using the energy of solar and biomass, thermal decomposition of waste fuels and biomass-biocarbon- prototype reactor of Autothermal Valorisation of Fuels, carbon fuel cells.

PARTICIPANT

Gender	<input type="checkbox"/> Mr	<input type="checkbox"/> Ms	Title Prof.
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First name	Wojciech
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Last name	Nowak
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Position	Dean of Faculty
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Areas of activity (*Free keywords*) Circulating Fluidized Bed Technology, Fluidized Bed Hydrodynamics, Oxyfuel Combustion, Desulfurization Methods, Biomass Combustion, Sewage Sludge Combustion, Ashes Utilization.

PROJECT DESCRIPTION

Title of your research project in one sentence	FLEXI BURN CFB. Development of High-Efficiency CFB Technology to Provide Flexible Air/Oxy Operation for a Power Plant with CCS.
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Short description of project	FLEXI BURN CFB project aims to developo and demonstrate a power plant concept based on the Circulating Fluidized Bed (CFB) technology combined with Carbon Capture and Storage (CCS). The plant will based on the super critical once through (SC OUT) technology and oxygen-firing with carbon capture, hence, providing high efficiency, operational flexibility and potential for an almost 100% reduction in CO2. The fuel flexibility of the CFB technology enables the utilization of indigenous fossil fuels with simultaneous co-firing of biomas. thus, the technology provides potential for addressing the needs for climate change mitigation, security of supply and reduction of dependence on important coals.
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Description of expertise offered	Czestochowa University of Technology is a leading polish University in the field of fluidization and fluidized bed technology. The university is also a member of international research team sponsored by NEDO, Japan, and strongly cooperates with other international research groups (both university and industry). The current research is focused on modern energy conversion technologies with
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	<p>particular respect to environmental protection:</p> <ul style="list-style-type: none"> - fluidized bed hydrodynamics, - combustion of alternative fuels (waste lignite, biomass, wastes) at fluidized bed conditions, - studies on desulfurization methods, - sorbent activation, - bed ash agglomeration, - emission of unwanted combustion by-products (SO₂, NO_x, CO₂, CO, dioxins, PM) - ash utilization/reuse are investigated in detail.
<p>Description of requested partner expertise</p>	<p>Solid samples(i.e. coal, bottom ash, fly ash, limestone, circulating material, make-up sand) analysis in the range of:</p> <ul style="list-style-type: none"> - determination of Hydrogen content and Nitrogen content for bituminous coal. - XRF analysis of solid samples in the range of concentration: Al, Si, P, S, Cl, K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Sn, Sb, Pb, Na, Mg. <p>Measurement of gas and solid material profile in the combustion chamber and circulation loop.</p>