Assoc.Prof. Cosmin Marculescu

- Title of presentation

  Renewable sources for production of derived fuels and power generation via new thermochemical approaches – international research collaborations

- Brief overview of the presentation

  The presentation is centered on collaborative research in the field of thermochemical processes looking for solutions for distributed power generation using thermochemical conversion of solid alternative fuels. Optimized pyro-gasification conversion processes are developed for solid residues conversion into derived liquid and gas fuels. The solutions can be applied to a wide range of renewable solid fuels unsuitable for standard processing technologies. Small power generation unit concept will be adapted to the electricity demand of the industrial waste producer. The solutions will consist in flexible waste to derived liquid and gas fuel conversion line connected to spark ignition reciprocating engine. The conversion concept can be used by different industry sectors as efficient waste disposal and decentralized power generation. New developing research for integrated valorization of renewable solid fuels as drop-in and gas fuel is also presented.

  Key benefits: alternative carbon based fuels; new pyro-gasification concepts; renewable sources valorization; effect of derived fuels on thermodynamic power cycles.

- Short biography and photograph

  Occupation field Thermochemical processes, Thermal power plants, Biomass / waste to energy conversion.

  Scientific activity
  Study of the latest processes for derived fuels production using waste thermal treatment: pyrolysis and gasification.
  Contributions to pyro-vapor-gasification of wide waste range.
  Improving procedures techniques for heterogeneous solid waste characterization to reduce the environmental impact of processes used for their elimination by technology optimizing.

  Positions held at Faculty of Power Engineering, University POLITEHNICA of Bucharest
  Associate professor, Director of Renewable Energy Sources Laboratory

  Studies
  2006 PhD, Doctor Engineer diploma in the field of Thermochemical processes for waste treatment using pyrolysis, gasification, incineration and energy recovery
  Double chair thesis: Romania – France

Projects/grants: member in 27 national and 4 international, in the field of thermo-chemical processes and renewable energy. Director of 3 national research projects. Co-PI for POC 1.1.4. research project.

International recognition
Reviewer for 10 ISI quoted journals, 3 international journals, 2 ISI indexed international conferences.

Publications:
Monographs: 4 and chapters: 2 (2 international publication)
Papers ISI quoted: over 25;
Papers in indexed journals and IDB indexed conference proceedings: over 50.

- Contact details

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