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| Program | Program NUCLEU PN 18 05 04 01 |
| Project title (ENG): | Innovative research to support the achievement of national targets aligned with EU policy regarding waste management in the context of the concept of circular economy, acronym INODES |
| Project title (RO): | Cercetari inovative in sprijinul atingerii tintelor nationale alinate la politica UE, privind managementul deseurilor in contextul conceptului de economie circulara, acronim INODES |
| Duration | 2018 |
| Team Leader | Researcher Lidia Kim |
| Summary (short description) ENG | <p>The main objective of the project is to carry out research in the field of waste management generated by different sectors activities (main waste, bauxite refinery mud, mud purification station) in order to identify innovative solutions for characterization and capitalization in the context the concept of circular economy.</p> <p>The analysis carried out in the studies shows the following:</p> <ul style="list-style-type: none"> - for the main categories of waste (municipal waste, packaging waste, bio-waste and waste with critical content), both sorting techniques and recovery / recycling techniques are implemented at European level, but technologies are needed not to generate too high a cost and thus to bring economic benefits; - regarding the red mud (bauxite refuse waste), the analysis carried out on the information available in the literature regarding its possibilities of use, reveals the fact that there are concerns about the application of technically and economically viable solutions; - in order to meet the combustion self-sustaining condition (lower calorific value greater than 1150 kcal / kg, according to the TECHNICAL STANDARD of January 10, 2003 on waste incineration), the sludge from the treatment plants should generally be dehydrated to a lower humidity content 40-50%, depending on the type of sludge treatment. |
| Summary (short description) RO | <p>Obiectivul principal al proiectului consta in realizarea unor cercetari in domeniul managementului deseurilor generate din diferite sectoare de activitate (deseuri principale, namol rosu de la rafinarea bauxitei, namol statie de epurare), in scopul identificarii unor solutii inovative de caracterizare si valorificare a acestora in contextul conceptului de economie circulara.</p> <p>Din analiza efectuata in cadrul studiilor se constata urmatoarele:</p> <ul style="list-style-type: none"> -in ceea ce privesc categoriile principale de deseuri (deseurile municipale, deseuri de ambalaje, deseuri biologice si deseuri cu continut de materii critice), la nivel european exista implementate atat tehnici de sortare cat si tehnici de valorificare/reciclare, dar sunt necesare tehnologii care sa nu genereze costuri prea mari in aplicare si astfel sa aduca avantaje din punct de vedere economic; -in ceea ce priveste namolul rosu (deseu de la rafinarea bauxitei), analiza efectuata asupra informatiilor existente in literatura de specialitate referitoare la posibilitatile de utilizare ale acestuia, releva faptul ca exista preocupari pentru aplicarea unor solutii viabile din punct de vedere tehnico-economic; -pentru a indeplini conditia de autosustinere a combustiei (putere calorica inferioara mai mare de 1150 kcal/kg, conform NORMATIV TEHNIC din 10 ianuarie 2003 privind incinerarea deseurilor), namolul din statii de epurare trebuie deshidratat in general pana la un continut de umiditate mai mica de 40-50 %, functie de tipul de namol de epurare. |
| Dissemination of results | |
| PhD Thesis – Title RO, ENG | - |

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| Full-paper ISI | Lidia Kim, Georgeta Madalina Arama. Ecological risk prediction in relation to the potential detrimental consequences at disposal of different industrial wastes. <i>Environmental Engineering and Management Journal</i> , vol. 17, nr. 9, 2018. |
| | Lidia Kim, Georgeta Madalina Arama, Adriana Cuciureanu, Doina Guta. Waste hazardousness evaluation handling specific issues according to the waste type. <i>Environmental Engineering and Management Journal</i> , in-print. |
| Full-paper BDI | - |
| Book | - |
| Book chapter | - |
| Conferences (platform, poster, abstract / full-paper | Lidia Kim, Stanescu Bogdan, Adriana Cucureanu, Madalina – Georgeta-Arama, Gina Alina Traistariu. Recent aproaches regarding the selection of appropriate methods for the characterization and analysis of used oils in order to assessment of the metals content. <i>Proceedings book of the 18th International multidisciplinary Scientific Geoconference SGEM 2018, Recycling</i> , ISBN 978-619-7408-45-4, ISSN 1314-2704, DOI:10.5593/sgem2018/4.2 |
| | Ileana Nicolescu, Bogdan Stanescu, Agnes Serbanescu, Mona Barbu, Alina Gina Traistariu. Determination of combustible sulfur content in sweage sludge. <i>Proceedings book of the 18th International multidisciplinary Scientific Geoconference SGEM 2018, Recycling</i> , ISBN 978-619-7408-45-4, ISSN 1314-2704 DOI:10.5593/sgem2018/4.2 |
| | Georgeta Madalina Arama, Lidia Kim, Adriana Cuciureanu, Agnes Serbanescu, Ileana Nicolescu, Mona Barbu, Bogdan Stanescu, Gina Traistaru. End of waste criteria for oil wastes. <i>International Symposium “THE ENVIRONMENT AND THE INDUSTRY”, SIMI 2018, PROCEEDINGS BOOK</i> , pag. 206-214, 2018. |
| | Agnes Serbanescu, Mona Barbu, Ileana Nicolescu, Georgeta Madalina Arama. Low heating value prediction from proximate analysis for sewage sludge samples. <i>International Symposium “THE ENVIRONMENT AND THE INDUSTRY”, SIMI 2018, PROCEEDINGS BOOK</i> , pag. 242-249, 2018. |
| | Gina Alina Traistaru (Catrina), Agnes Serbanescu, Mona Barbu, Ileana Nicolescu , Nicolae Ionut Cristea, Bogdan Stanescu, Ileana Cristina Covaliu. Comparative study regarding the analysis of the metals contents from biomass wastes through different methods of digestion. <i>International Symposium “THE ENVIRONMENT AND THE INDUSTRY”, SIMI 2018, PROCEEDINGS BOOK</i> , pag. 347-353, 2018. |