**Partner 1 (Coordinator): Technical University of Cluj Napoca (UTCN)**

**Role in the project:**
- to prepare and characterize the composites;
- to perform the barrier properties and aging tests for the active packages;
- to perform the mathematical modeling of the results for food stored in active packages, in order to establish the maximum amount of food that can be packed in the active package to obtain the maximum preservation efficiency for a certain storage range;
- to recover the used packages;
- to perform the market study;
- to prepare the documentation for beginning the procedure for obtaining the Romanian and international patent;
- to organize the training, dissemination and management activities.

**Team qualification in the field of proposal:**
The research team includes: 4 researchers (Anca Peter, Camelia Nicula, Anca Mihaly Cozmuta, Leonard Mihaly Cozmuta), 2 PhD students (Aglaia Deac, Calin Cadar) and 4 master students (Marius Metenti, Robert Apjok, Alexandra Ciocian, Paula Dunca). The field of expertise of Anca Peter, Cadar Calin and Aglaia Deac is preparation and characterization of the composites. Anca Mihaly Cozmuta and Camelia Nicula are specialists in testing the barrier properties, biodegradability, aging of the active packages and performing the mathematical modeling of the results for food stored in active packages, in order to establish the maximum amount of food that can be packed in the active package to obtain the maximum preservation efficiency for a certain storage range. Leonard Mihaly Cozmuta is focused on statistical processing of the results. The role of the master students will be to help the researchers in their activities.

The experience of the research team in the field of the proposal was disseminated in 30 articles published in ISI ranked journals and ISI proceedings, 2 patents (national and international), members in 14 research grants, 15 articles published in International Date Base Journals (BDI), participation to the international scientific events, citation in ISI ranked journals of the ISI published articles.

**CV’s of Key Persons involved in the activities of the project**
The CV will present the main expertise in the field related to the scope of the project

1st Key Person

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Anca</th>
<th>Surname:</th>
<th>Peter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Dr.</td>
<td>E-mail¹:</td>
<td><a href="mailto:peteranca@yahoo.com">peteranca@yahoo.com</a></td>
</tr>
<tr>
<td>Phone²:</td>
<td>0040744790308</td>
<td>Fax:</td>
<td>0040262275368</td>
</tr>
<tr>
<td>Organisational web page of key person³:</td>
<td><a href="http://chimie-biologie.ubm.ro/staff.html">http://chimie-biologie.ubm.ro/staff.html</a></td>
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<tr>
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<td><a href="http://chimie-biologie.ubm.ro/staff.html">http://chimie-biologie.ubm.ro/staff.html</a></td>
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</tbody>
</table>

### A. Relevant activities:

#### Relevant activities in the field of thematic area:
- preparation and structural and photo-characterization of composites based on TiO₂;
- testing the food preservation activity of packages based on paper and polypropylene modified with different types of composites based on titania (modified with noble metals, other oxides, graphenes, zeolite, etc...);
- testing the preservative role of different hydroxiacids, spices over different types of food and beverages.

#### Relevant activities in the field of the project:
- preparation of the composites graphene oxide modified with Ag/TiO₂;
- characterization of the composites in terms of: photocatalytic activity (high photoactivity of the composites means efficient preservation activity), structure developed by FTIR spectrometry, light activation and band gap energy developed by UV-Vis reflectance spectrometry;

¹ Organisational e-mail ...@<partner1>
² International format
³ Official web page of key person in the organisation
⁴ Personal web page, if applicable
- preparation of the tests for the market study
- preparation of documents needed to start the procedure to obtain the Romanian and European patents
- organizing the training and management activities
- supervision of all the project activities for the best collaboration between the project partners
- establish the connection between the project management structures and the National Agency of Funding.

B. Scientific activities:

Relevant publications in the field of thematic area (maximum 5):

Publications 1), 2) and 3) are focused on establish the efficient preservation activity of the composites based on titania during storage of different food and beverages and publications 4) and 5) are focused on preparation and characterization of composites based on titania and were inserted as support publications, in order to demonstrate the expertise of the research team in the field of preparation and characterization of the composites.


Relevant projects in the field of thematic area (maximum 5):

1) Title: Smart functions of packages containing nano-structured materials in food preservation – SMARTPACK
   Registration no.: 7-065 / 26.09.2012;
   Role in the project: consortium coodinator
   Period: 2012-2015
   Partners: ICA R&D Romania, Babes-Bolyai University Romania, L&G Consulting Romania, Warsaw University of Technology – Poland
   Budget: 530 000 euro

2) Title: Advanced nanostructured materials of aerogel type with applications to environment depolulation by heterogeneous photocatalysis
   Registration no.: code 44, theme 15/2005.
   Role in the project: coodinator
   Programme: TD by the Romanian call financed by Romanian Ministry of Education and Research
   Budget: 36 000 lei

3) Title: Developing of a biophysical system based on zeolites microorganisms-vegetal species for eco-remediation of tailing ponds coming from gold-silver preparation industry - ZEMIP
   Role in the project: member of the research team
   Duration: 2009-2011
   Funding source: Romanian Agency of Funding by the programme: Bilateral cooperation
   Partners: North University of Baia Mare, University of Witswatersrand, Johhannesburg South Africa

4) Title: Bioaccumulation of heavy metals in the chain soil-vegetables-human - BIOMEG
   Role in the project: member of the research team
   Period: 2008-2011
Funding source: Romanian Agency of Funding by the programme PNCD 2.
Partners: North University of Baia Mare, University of Oradea, Statiunea de Cercetari Agricole Livada Satu Mare, University of Transilvania Brasov
Budget: 1.900.000 lei

5) Title: Innovative photocatalytic materials applied to chemical and microbiological decontamination of air from inner spaces, MATDECON
Registration no.: PN II 71-099/2007
Role: member in the research team
Period: 2007-2010
Budget: 840.400 lei
Funding source: Romanian Ministry of Education and Research by programme PN II.

Relevant applied activities (for companies, e.g. product, processes etc.):
The consortium coordinator is principal inventor of 2 Romanian patents and 1 European patent:
- The Romanian patent entitled: Procede de obtinere a unor ambalaje alimentare inteligente, registration no. a2015 00256 from 8.04.2015 to OISIM Romania (National Patent Office);
- The European patent entitled: Processes for obtaining active food packages, application no. 15464006.4-1358 /28.08.15, priority: RO/08.04.15/ROA 201500256

The subjects of this patent are three products such:
1) polypropylene flask modified with Ag/TiO2–SiO2 composite
2) polypropylene flask modified with Au/TiO2 composite
3) paper sheet modified with Ag/N–TiO2 composite
designed for food packaging applications with efficient preservation activity and low or non-toxicity.

2nd Key Person

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Anca</th>
<th>Surname:</th>
<th>Mihaly Cozmuta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Dr.</td>
<td>E-mail5:</td>
<td><a href="mailto:ancamihalycozmuta@gmail.com">ancamihalycozmuta@gmail.com</a></td>
</tr>
<tr>
<td>Phone6:</td>
<td>00741949669</td>
<td>Fax:</td>
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<td>Organisational web page of key person7:</td>
<td><a href="http://chimie-biologie.ubm.ro/">http://chimie-biologie.ubm.ro/</a></td>
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<td>Personal web page8:</td>
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A. Relevant activities:
Relevant activities in the field of thematic area: food packaging; food shelf-life; food quality and safety;
Relevant activities in the field of the project: preparation and physical-chemical-optical characterization of active food packaging; testing the suitability of active packages for different food types;

B. Scientific activities:
B.1. Relevant publications in the field of thematic area (maximum 5):


**B.2. Relevant projects** in the field of thematic area (*maximum 5*):

**B.2.1.** **Title:** Smart functions of packages containing nano-structured materials in food preservation – SMARTPACK  
**Coordinator:** Associate professor dr. Anca Peter, UTC-N CUNBM-Romania  
**Main members:** Anca Mihaly Cozmuta, Leonard Mihaly Cozmuta, Camelia Nicula  
**Time range:** 2012-2015  
**Funding source:** MNT-ERANET Program  
**Partners:** ICA-Bucuresti-Romania, Universitatea Babes Bolyai Cluj Napoca-Romania, SC Somes Dej-Romania, Warsow University – Poland

**B.3. Relevant applied activities** (for companies, e.g. product, processes etc.): Active packages (paper and plastics) based on nanomaterials for food products. Testing the barrier properties, hydrophobicity of fresh and aged active packages; mathematical modeling of packages efficiency.

**Partner 2: Ceprohart Romania (CEPRO)**

**Role in the project:**  
- preparation and characterization of the active paper based packages;  
- to perform the market study,  
- to prepare the documentation for beginning the procedure for obtaining the Romanian and international patent;  
- to organize the training, dissemination and management activities.

**Team qualification in the field of proposal:**  
The research team includes: 7 researchers (Talașman Cătălina Mihaela, Radu Argentina, Constantin Constantin, Burlacu Marițica, Bratu Gabriela, Dumitrașcu Ionuț, Drăgan Mihai ) specialized in pulp and paper technology and industrial ecology. Constantin Constantin and Talașman Cătălina Mihaela are focused on paper technology and industrial ecology. Marițica Burlacu and Radu Argentina are focused on paper special treatments, Dumitrașcu Ionuț and Bratu Gabriela are focused on paper analyses and Drăgan Mihai is specialist in chemical analysis.

**CV’s of Key Persons involved in the activities of the project**  
*The CV will present the main expertise in the field related to the scope of the project*

**1st Key Person**

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<th>Personal web page&lt;sup&gt;12&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>TALASMAN</td>
<td>CATALINA MIHAELA</td>
<td>Research scientist</td>
<td><a href="mailto:catalina.talasman@ceprohart.ro">catalina.talasman@ceprohart.ro</a></td>
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<td>004 0239680280</td>
<td>http: <a href="http://www.ceprohart.ro">www.ceprohart.ro</a></td>
<td>http: -</td>
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<sup>9</sup> Organisational e-mail ...@<partner1>  
<sup>10</sup> International format  
<sup>11</sup> Official web page of key person in the organisation  
<sup>12</sup> Personal web page, if applicable
Relevant activities in the field of thematic area: coordinator of the Research Department of SC CEPROHART SA and of the „Pulp manufacturing and bleaching” Laboratory; - participation at the implementation of projects financed by the research national programs, in the field of: pulp, paper, specialty paper and board manufacturing technologies; cellulose nanofibrils obtaining, fabrication of composites based on cellulosic fibres; - participation within the COST European RD program within the field of pulp, paper and environment protection (E9 - Life cycle assessment of forestry and forests products; E14 – Towards zero effluent in paper making; E17 - Microbiology in paper making).

Relevant activities in the field of the project:

B. Scientific activities:
Relevant publications in the field of thematic area (maximum 5):
2. “Gamma Radiations use in order to preserve the papers deteriorated by the biological attack”- “Technical Informative Bulletin” no. 6/2011
3. “ Special packaging materials from cellulosic fibres – a viable alternative for foodstuff protection and safety”, 17th International Symposium in the field of pulp, paper, packaging materials and printings, 21 – 24 June 2011, Zlatibor, Serbia;
4. “Aspects regarding compliance of improved barrier papers with food safety and environment requirements, The 6th International Symposium „Advanced technologies for the pulp and paper industry”, 6 – 9 September, 2011, Braila, Romania;

Relevant projects in the field of thematic area (maximum 5):
„ Bio-composites from renewable resources - biodegradable nutritive support for containerized seedling manufacturing”, PNCDI 2 Program; “Polymeric bio-composites from renewable sources for high level applications” - Program BICOP – CEEX P – CD 61/2005; „Special packaging materials from cellulosic fibers – a viable alternative for foodstuffs protection and safety”, PNCDI 2 Program

Relevant applied activities (for companies e.g. product, processes, etc.): new technologies and technological processes and product approval, e.g.: (I) manufacturing technology of filter plates for food liquids; (II) technology for the production of neutral-alkaline sizing printing paper; (III) manufacturing technology for paper resistant to oil, grease and water designated to food packaging; (IV) security paper for valuable documents; (V) technology and equipment for obtaining of biodegradable nutritive support for containerized seedling manufacturing; (VI) manufacturing technology of an electro insulation papers.

2nd Key Person

| First Name: | CONSTANTIN |
| Title: | CHEMICAL ENGINEER |
| E-mail13: | constantin.constantin@ceprohart.ro |
| Phone14: | 040 744983997 |
| Fax: | 004 0239680280 |
| Organizational web page of key person15: | http: www.ceprohart.ro |

13 Organisational e-mail ...@<partner1>
14 International format
15 Official web page of key person in the organisation
A. Relevant activities:

Relevant activities in the field of thematic area: Coordinator of industrial scale experiments in the field of conventional raw materials for pulp manufacturing, special papers from cellulosic fibres with industrial applications; - coordinator of the „Laboratory for stock preparation and chemical additive dosages”; - participation at the implementation of projects financed by the research national programs, in the field of: pulp, paper, specialty paper, fabrication of the composites based on cellulosic fibres (MENER, ECOLINKS, PNCDI I, PNCDI II); Member of the COST ACTION FP1405 – Active and intelligent fibre – based packaging innovation and market introduction (ActInPak) - http://www.actinpak.eu/.

Relevant activities in the field of the project: Project responsible of the “Security paper with magnetic nanoparticles” PN – II – PT-PCCA-2013-4-0560, coordinator of the Kamyr digester – industrial scale softwood sulphate cellulose pulp manufacturing: cooking, screening pulp, bleaching and electrolysis plant modernization; Implementation of new technologies for bleached pulp. Co-author of patent application A 00798 / 06.11.2015 -” Paper for security printing with magnetic properties”.

B. Scientific activities:

Relevant publications in the field of thematic area (maximum 5):


Relevant projects in the field of thematic area (maximum 5):

"Modernization of manufacturing technology and facilities for ECF celluloses bleached without chlorine type, with high quality features and low environmental impact", PNCDI – MENER; „Special packaging materials from cellulosic fibres – a viable alternative for foodstuffs protection and safety”, PNCDI 2 Program; "Reducing the discharge of wastewater containing organic substances from dissolved fibers" for CELHART Donaris Braila, Romania - Ecolinks Program - USAID Program;

Relevant applied activities (for companies e.g. product, processes, etc.):

new technologies and technological processes and product approval, e.g.: (I) manufacturing technology of filter plates for food liquids; (II) technology for the production of neutral-alkaline sizing printing paper; (III) manufacturing technology for paper resistant to oil, grease and water designated to food packaging;

Partner 3: University of Camerino Italy (UNICAM)

Role in the project:

Selection and characterization of probiotic strains. Sensorial, physico-chemical and microbiological analysis on different types of food deposited in new and reused paper packages containing unmodified or modified graphene. Perform the market study, prepare documentation for beginning the procedure for obtaining the Romanian and international patent; organize the training, dissemination and management activities

Team qualification in the field of proposal:

The research team includes: 3 researchers and 2 postDoc positions. The expertise of all of the team goes through several fields: probiotics selection and characterization, sensorial and microbiological analysis of several food and food matrix, identification of chemical markers for evaluating the shelf life of food, analysis of food by using analytical techniques as HPLC-DAD/MS, application of sample preparation techniques and GC-MS analysis.

CV’s of Key Persons involved in the activities of the project

The CV will present the main expertise in the field related to the scope of the project

1st Key Person

16 Personal web page, if applicable
First Name: STEFANIA  
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Fax: +39(0)737402418  
Organisational web page of key person: http://www.unicam.it  
Personal web page: http://orcid.org/0000-0002-4755-6239  
https://www.researchgate.net/profile/Stefania_Silvi

A. Relevant activities:
Relevant activities in the field of thematic area:
During the last 15 years she was researcher on General Microbiology at Camerino University.

Relevant activities in the field of the project:
She was dedicated to in vivo and in vitro studies of relations within dietary factors and intestinal microbiota, in relation with the consumption of simple and complex carbohydrates, fibres and polyphenols and the correlation with colon cancer; study of biodegradability of xenobiotic compounds. Her current field of research is on microbial biotechnologies applied to the valorisation of food resources and functional foods for human and animal health, of the latest, in particularly those integrated in the human food chain. She has expertise both in microbiology and nutrition, and the probiotics field is in the overlap between these two disciplines.

B. Scientific activities:
Relevant publications in the field of thematic area (maximum 5):


Relevant applied activities (for companies e.g. product, processes, etc.):

2nd Key Person
First Name: GIANNI  
Surname: SAGRATINI  
Title: Associate  
E-mail: gianni.sagratini@unicam.it

17 Organisational e-mail ...@<partner1>  
18 International format  
19 Official web page of key person in the organisation  
20 Personal web page, if applicable  
21 Organisational e-mail ...@<partner1>
A. Relevant activities:

**Relevant activities in the field of thematic area:** the analysis of chemical markers of food for evaluating the shelf life by using sample preparation techniques as LLE, SLE, SPE, SPME and by using analytical techniques as HPLC-DAD, HPLC-MS/MS, GC-MS.

**Relevant activities in the field of the project:** the study of shelf life of food as meat and cheese stored in used PLA packages through the analysis of chemical markers as biogenic amines, hexanal, volatile molecules components of flavour. Other parameters of food as pH and colour are detected too.

B. Scientific activities:

**Relevant publications in the field of thematic area (maximum 5):**


**Relevant projects in the field of thematic area (maximum 5):**

1. Study of new systems of food packaging, funded by Esseoquattro s.p.a. private industry (Italy), 65.000 euro, 2014 year.
2. Study of a new system of active packaging formulation with natural extracts that allows you to keep food, health and respect the environment (activebrill), funded by ERFD 2007-2013 (European Regional Development Fund) Veneto Region, 150.000 euro, 2011-13 years.

**Relevant applied activities (for companies e.g. product, processes, etc.):**


**Partner 4: SYNBIOTEC Italy (SYN)**

**Role in the project:**

Selection, characterization and production of the probiotic strains. Preparation of coating and testing the stability and viability of probiotics in the packaging. Perform the market study, prepare documentation for beginning the procedure for obtaining the Romanian and international patent; organize the training, dissemination and management activities.

**Team qualification in the field of proposal:**

The research team includes: 1 coordinator of researches, 1 responsible of research and development, 2 researchers, 1 senior technician, 1 filing data consulting.

**CV’s of Key Persons involved in the activities of the project**

The CV will present the main expertise in the field related to the scope of the project.
A. Relevant activities:

**Relevant activities in the field of thematic area:** He has been Associate Professor of "General Microbiology" at the University of Camerino from 1982 to 2013. He was one of the Founding Member and then President of Synbiotec Srl since 2004 up to now.

**Relevant activities in the field of the project:** Study of role of probiotic bacteria present in human and animal gut, isolation and characterization and screening of probiotic properties. Understanding the effect of intestinal bacteria on human health and diseases and it has allowed to develop new therapies and novel functional foods. He has been the proposer of a project for research activity, funded by the Italian Ministry of University and Research, from which on 2004 Synbiotec S.r.l. was born as University spin-off company.

B. Scientific activities:

**Relevant publications in the field of thematic area (maximum 5):**


**Relevant projects in the field of thematic area (maximum 5):**


2. 2010 “Development of a soft-gel containing probiotics for application in food and fish sector.” FESR (Fondo Europeo Sviluppo Regionale) 2007-2013, Marche Region;

3. 2014 “Study, design and production of a functional food bag of “Made in Italy” probiotic foods and distribution formats for the exploitation in national and international markets” FESR (Fondo Europeo Sviluppo Regionale) 2007-2013, Marche Region.

**Relevant applied activities (for companies e.g. product, processes, etc.): Patents.**


A. Relevant activities:

**Relevant activities in the field of thematic area:** She has been researcher on "General Microbiology" at the University of Camerino from 1980 to 2012. She was one of the Founding Member and currently in charge for the Research and Development Section of Synbiotec S.r.l. since 2004 up to now. She is also one of the members of Administration Council of the company.

**Relevant activities in the field of the project:** Her competences focus on the effect of intestinal bacteria on human health and diseases, the determination of the role of probiotic bacteria present in human and animal gut, the isolation and characterization and screening of prebiotic properties. All of that has allowed her to contribute developing new dietary supplement and novel functional foods.

C. Scientific activities:

**Relevant publications in the field of thematic area (maximum 5):**


**Relevant projects in the field of thematic area (maximum 5):**


**Relevant applied activities (for companies e.g. product, processes, etc.):**

**Patents.**


Development of dietary supplements with Synbiotec brand.

**Partner 5: National Institute of Chemistry, Slovenia (NIC)**

**Role in the project:** To perform morpho-structural characteristics of the composites and of the active packages; perform the market study, prepare documentation for beginning the procedure for obtaining the Romanian and international patent; organize the training, dissemination and management activities.

**Team qualification in the field of proposal:** The project team includes three researchers (dr. Goran Drazic, dr. Elena Chernyshova and dr. Marjan Bele) and two PhD students. Dr. Goran Drazic is a senior scientist with 30 years of experience in the field of microorganisms.
experience in materials synthesis and characterisation. His expertise is in the development and implementation of electron microscopy and microanalytical techniques for the study of modern nanomaterials. Dr. Elena Tchernychova is researcher with specialisation in transmission electron microscopy and electron energy loss spectroscopy. Dr. Marjan Bele is senior scientist with long time experience in synthesis and characterisation of various materials including graphene and other carbon related compounds.

**CV’s of Key Persons involved in the activities of the project**

*The CV will present the main expertise in the field related to the scope of the project*

**1st Key Person**

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Goran</th>
<th>Surname:</th>
<th>Drazic</th>
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<tbody>
<tr>
<td>Title:</td>
<td>Assist. prof. dr.</td>
<td>E-mail33:</td>
<td><a href="mailto:goran.drazic@ki.si">goran.drazic@ki.si</a></td>
</tr>
<tr>
<td>Phone34:</td>
<td>+3861476514</td>
<td>Fax:</td>
<td>+386 1 4760300</td>
</tr>
<tr>
<td>Organisational web page of key person35:</td>
<td>http: <a href="http://www.ki.si">www.ki.si</a></td>
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</tbody>
</table>

**A. Relevant activities:**

**Relevant activities in the field of thematic area:** synthesis, characterisation, transmission electron microscopy and microanalysis

**B. Scientific activities:**

**Relevant publications in the field of thematic area (maximum 5):**


5. VIŽINTIN, Alen, LOZINŠEK, Matic, KUMAR CHELLAPPAN, Rajesh, FOIX, Dominique, KRAJNC, Andraž, MALI, Gregor, DRAŽIĆ, Goran, GENORIO, Boštjan, DEDRYVÈRE, Rémi, DOMINKO, Robert. Fluorinated reduced graphene oxide as an interlayer in Li-S batteries. Chemistry of materials, ISSN 0897-4756. [Print ed.], Oct. 2015, vol. 27, no. 20, str. 7070-7081, doi: 10.1021/acs.chemmater.5b02906

requirements for SiC/SiC composites as structural materials”, (2009–2012).● Project leader of 3 national basic projects related with nanomaterial synthesis and characterisation with transmission electron microscopy and microanalyses.

Relevant applied activities (for companies e.g. product, processes, etc.): several applied projects with Slovenian industry (Cinkarna Celje, Exoterm Kranj, Steklarna Hrastnik, Impol Slovenska Bistrica).

2nd Key Person

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Marjan</th>
<th>Surname:</th>
<th>Bele</th>
</tr>
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<tbody>
<tr>
<td>Title:</td>
<td>Dr.</td>
<td>E-mail37:</td>
<td><a href="mailto:Marjan.Bele@ki.si">Marjan.Bele@ki.si</a></td>
</tr>
<tr>
<td>Phone38:</td>
<td>+386 1 4760322</td>
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<td>+386 1 4760300</td>
</tr>
</tbody>
</table>

Organizational web page of key person39: [http: www.ki.si](http: www.ki.si)


A. Relevant activities:
Relevant activities in the field of thematic area: synthesis and characterisation of carbon based materials

Relevant activities in the field of the project: synthesis and characterisation of graphene oxide based composite materials

B. Scientific activities:

Relevant publications in the field of thematic area (maximum 5):


Relevant projects in the field of thematic area (maximum 5): leader of 4 national projects related to synthesis of nanomaterials

J2-4316, "Novel functionalized nanomaterials for applications as nano- or biosensors/actuators/bioresponsive(carrier) systems", 2011—2014

L2-3232, "Interactions between the components of a paint system and their influence on paint application", 2001—2004

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37 Organisational e-mail …@<partner1>
38 International format
39 Official web page of key person in the organisation
40 Personal web page, if applicable
Relevant applied activities (for companies e.g. product, processes, etc.):
5 international patents:
And 7 national (Slovenian) patents:

Partner 6: Andaltec Spain (ANDA)
Role in the project: prepare and characterize the PLA films and composites films; design and validation of the prototype product, LCC and LCA analysis for the product, recover the used packages, perform the market study, perform the migration tests needed to obtain the certificate of homologation at European level for the PLA film based active packages, to prepare documentation for beginning the procedure for obtaining the Romanian and European patent; organize the training, dissemination and management activities.

Team qualification in the field of proposal: The research team includes: 6 researchers (Julián Parra Barranco, Antonio Peñas San Juan, Francisco Navas San Juan Martos, Manuela Cano Galey, María Angeles Pancorbo y Daniel Aguilera
Puerto) specialized in development of new polymer composite in the field of food packaging. Julián Parra Barranco are focused in management of European Projects and development of polymer composites. Antonio Peñas San Juan and Francisco Navas San Juan are focused of development and validation of food packaging prototypes. Manuel Cano Galely is focused in the design and simulation of food packaging prototypes. Maria Angeles Pancorbo and Daniel Aguilera Puerto are focused and quality management and LCA analysis.

CV’s of Key Persons involved in the activities of the project

The CV will present the main expertise in the field related to the scope of the project

1st Key Person

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Julián</th>
<th>Surname:</th>
<th>Parra Barranco</th>
</tr>
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<tbody>
<tr>
<td>Title:</td>
<td>Dr</td>
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<tr>
<td>Personal web page:</td>
<td>http: <a href="https://www.linkedin.com/in/julian-parra-barranco-401a3bb1?trk=nav_responsive_tab_profile">https://www.linkedin.com/in/julian-parra-barranco-401a3bb1?trk=nav_responsive_tab_profile</a></td>
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</tr>
</tbody>
</table>

A. Relevant activities:

Relevant activities in the field of thematic area: Coordinator of the European Project Department of Andaltec. Participation at the redaction and implementation of R&D Projects financed by the national and international programs, in the field of food packaging, advanced materials, advanced manufacturing. Internal cooperation within the COST European RD programme Multi-Functional Nano-Carbon Composite Materials Network (MultiComp) CA-15107 in development of polymer composites reinforced with carbon fibers. Responsible Andaltec researcher of development of new polymer composites based on carbon nanomaterials.

Relevant activities in the field of the project: Project responsible of the “Europa Centros 2015” national project. Implementaiton of new technologies of the extruder system for fabrication of polymer composite reinforced with carbon nanomaterials.

B. Scientific activities:

Relevant publications in the field of thematic area (maximum 5):

1. Pedro Navarrete, J. Parra-Barranco, G. Morales-Cid, A. Peñas
   Novel self-healing multilayer microcapsules with improved temperature and mechanical resistance: advances towards hot-melt thermoplastic processing. EUSCHEMS, Seville (Spain) 2016


3. STSM exchange Report within the COST European RD program Multi-Functional Nano-Carbon Composite Materials Network (MultiComp) CA-15107.

Relevant projects in the field of thematic area (maximum 5):

1) Title: International Europe Centre 2014
   Registration no.: ECT- 2015- 177
   Role: member in the research team and coordinator
   Period: 20015-2016
   Budget: 193.275,36 €
   Funding source: Spanish Ministry of Economic and Competitiveness

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41 Organisational e-mail ...@<partner1>
42 International format
43 Official web page of key person in the organisation
44 Personal web page, if applicable
2) Title: Fabrication of food packaging based in XPS and PET composites for enhance properties by thermoforming process.
Registration no.: ITC 20151005
Role: member in the research team
Period: 2016-2018
Budget: 606,400,40 €
Funding source: Spanish Ministry of Economic and Competitiveness

3) Title: Multi-Functional Nano-Carbon Composite Materials Network (MultiComp) CA-15107
Registration no.: CA-15107
Role: member in the research team
Funding source: European Commission H2020

4) Title: Integrated management of multilayer PVC/PE packaging waste
Registration no.: LIFE ENV/ES/00231
Role: Member in the research team and coordinator of Andaltec
Period: 2016-2019
Budget: 118,973,00 €

Relevant applied activities (for companies e.g. product, processes, etc.): new technologies and new system for extrusion filament polymer composites. Cooperation with national and international companies for optimization of polymer composites reinforced with carbon nanomaterials.

2nd Key Person

<table>
<thead>
<tr>
<th>First Name</th>
<th>Antonio</th>
<th>Surname:</th>
<th>Peñas-Sanjuán</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Dr.</td>
<td>E-mail:</td>
<td><a href="mailto:antonio.penas@andaltec.org">antonio.penas@andaltec.org</a></td>
</tr>
<tr>
<td>Phone⁴⁶</td>
<td></td>
<td>Fax:</td>
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<td>Organizational web page of key person⁴⁷</td>
<td><a href="http://www.andaltec.org">www.andaltec.org</a></td>
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<tr>
<td>Personal web page⁴⁸</td>
<td><a href="https://www.linkedin.com/in/antonio-pe%C3%B1as-sanju%C3%A1n-6b6a714a?trk=nav_responsive_tab_profile_pic">https://www.linkedin.com/in/antonio-peñas-sanjuán-6b6a714a?trk=nav_responsive_tab_profile_pic</a></td>
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</tbody>
</table>

A. Relevant activities:
Relevant activities in the field of thematic area: R&D responsible and Coordinator of R&D Material Area of Andaltec. Person in charge of developing new advanced functional material in the field of Food Packaging, polymeric nanocomposites, self-healing materials, etc
Relevant activities in the field of the project: Production of active and intelligent food packagings. Development of advanced polymeric composites based on nanomaterials, processing optimization and analysis of functionality.

B. Scientific activities:
Relevant publications in the field of thematic area (maximum 5):
   *Grafting the surface of carbon nanotubes and carbon black with the chemical properties of hyperbranched polyamines.*
   Science and Technology of advanced Materials, 2016, 17, 541
2. Capilla Mata-Pérez, Beatriz Sánchez-Calvo, María N. Padilla, Juan C. Begara-Morales, Francisco Luque, Manuel Melguizo, Jaime Jiménez-Ruiz, Jesús Fierro-Risco, Antonio Peñas-Sanjuán, Raquel Valderrama, Francisco J. Corpas, Juan B. Barroso
   *Nitro-Fatty Acids in Plant Signaling: Nitro-Linolenic Acid Induces the Molecular Chaperone Network in Arabidopsis*, Plant Physiology, 2016, 170, 686
3. Antonio Peñas Sanjuán, Azahara Gutiérrez Mellado

⁴⁵ Organisational e-mail ...@<partner1>
⁴⁶ International format
⁴⁷ Official web page of key person in the organisation
⁴⁸ Personal web page, if applicable
New developments in monolayer films for Food Packaging, Revista de plásticos modernos: Ciencia y tecnología de polímeros, **ISSN 0034-8708, 2016, 111, Nº. 710**


*Novel self-healing multilayer microcapsules with improved temperature and mechanical resistance: advances towards hot-melt thermoplastic processing.* EUSCHEMS, Seville (Spain) **2016**


*Transferring the properties of molecular receptors to the carbon surface in hybrid materials: The crucial role of porous texture,* Materials Chemistry and Physics, **2012, 134,** 608

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**Relevant projects in the field of thematic area (maximum 5):**

1) **Title:** Integrated management of multilayer PVC/PE packaging waste

**Registration no.** LIFE ENV/ES/00231

**Role:** Member in the research team and coordinator of Andaltec

**Period:** 2016-2019

**Budget:** 118,973,00 €

2) **Title:** Research and development of novel healthy food and advanced food packaging

**Registration no.** Spanish Ministry of Economic and Competitiveness

**Role:** Member in the research team

**Period:** 2015-2018

**Budget:** 200,000,00 €

3) **Title:** Smart and Sustainable Food Packaging Utilizing Flexible Printed Intelligence and Materials Technologies

**Registration no.:** Grant agreement no: 289829. Seventh Framework Programme

**Role:** Member in the research team

**Period:** 2012-2014

**Budget:** 190,360,00 €

4) **Title:** Carbonanobridge

**Registration no.** ERC-227135, Seventh Framework Programme

**Role:** Member in the research team

**Period:** 2009-2015

**Budget:** 2,500,000,00 €

5) **Title:** Metallic nanoparticles on Carbon Nanotubes and Carbon-Blacks. Nanostructure arrangements by using hyperbranched organic polymers

**Registration no.** MAT2009-14185-C02-02, Spanish Ministry of Economic and Competitiveness

**Role:** Member in the research team

**Period:** 2010-2013

**Budget:** 84,700,00 €

**Relevant applied activities (for companies e.g. product, processes, etc.):**

new technologies and new system for food packaging. Leader of internal private R&D project with national food packaging companies.