

## H2020-MSCA-RISE-2016-734164 Graphene 3D

Start date: 01.01.2017 End date:31.12.2020

# Newsletter No. 2

Published in December 2018

## Project Results

### WP2: Processing of Nanocomposites in D2.3. Report

- Synthesis of rGO and MWCNTs
- Synthesis of UV curable PDNS
- Synthesis of PDMS/rGO nanocomposites
- PLA-based NC filaments for 3D printing (FDM)
- HAVOH NCs for 3D printing (FDM)
- TPU wrapped powder for SLS 3D printing
- HDPE wrapped powder and filament for 3D printing (FDM)



Fig.1. Production line for PLA based nanocomposite filament

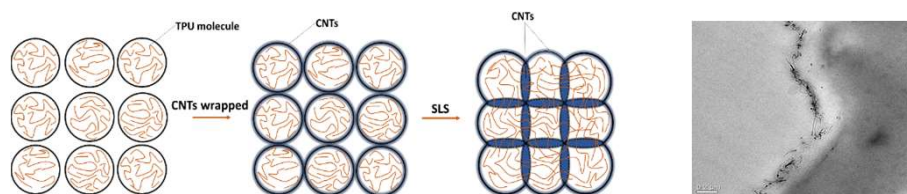
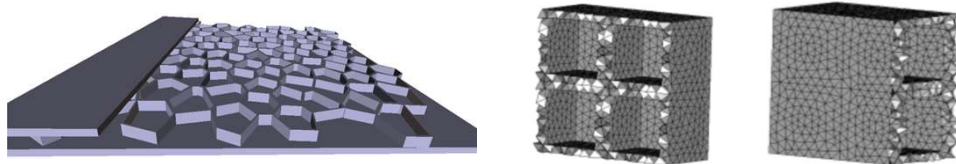


Fig.2. TPU wrapped powder for SLS 3D printing

### WP6: D6.1. Design of foam-like closed cell structures



#### Completed Deliverables:

- D1.1. First progress report, M12
- D1.2. Mid-term review report, M17
- D2.1. Materials specification, M4
- D2.2. Rheological methodology, M2
- D2.3 Materials synthesis & nanocomposite fabrication, M24

- D6.1 Design of foam-like, closed-cell structures with optimized lightness and mechanical robustness, M23
- D8.1 Graphene 3D Project Website & Flyer, M3
- D8.2 Report on Dissemination, Communication and Outreach activities, M24
- D9.1 Ethics post grant Declaration, M1

#### Partner Organizations:

- INSTITUTE OF MECHANICS, Bulgarian Acad. Sci. Bulgaria (Coordinator)  
*Prof. Rumiana Kotsilkova*
- CNR / Institute for Polymers, Composites and Biomaterials - Italy  
*Dr. Clara Silvestre*
- NARRANDO SRL – Italy  
*Prof. Paolo Ciambelli*
- UNIVERSITE DE NAMUR – Belgium  
*Prof. Philippe Lambin*
- UNIVERSITA DI SALERNO – Italy  
*Dr. Patrizia Lamberti*
- NANOTECHLAB Ltd. – Bulgaria  
*Dr. Evgeni Ivanov*
- Ilia Vekua Sukhumi Institute of Physics and Technology – Georgia  
*Dr. Ekaterina Sanaia*
- INSTITUTE NUCLEAR PROBLEMS, Belarusian State University - Belarus  
*Dr. Polina Kuzhir*
- SICHUAN UNIVERSITY - (SKLPME-SU), P.R. China  
*Prof. Hesheng Xia*
- MACK GRAPHE, Instituto Presbiteriano Mackenzie – Brazil  
*Dr. Ricardo Andrade*

#### Project Coordinator:

Prof. Rumiana Kotsilkova  
 IMech-BAS, Bulgaria  
 kotsilkova@imbm.bas.bg

#### Research Manager:

Prof. Philippe Lambin  
 UNamur, Belgium  
 philippe.lambin@unamur.be

#### Secondments Manager:

Dr. Clara Silvestre  
 IPCB-CNR, Italy  
 clara.silvestre@ipcb.cnr.it

#### Dissemination Manager:

Dr. Patrizia Lamberti  
 Uni Salerno, Italy  
 plamberti@unisa.it

#### Exploitation Manager

Dr. Evgeni Ivanov  
 NANOTECHLAB, Bulgaria  
 ivanov\_evgeni@yahoo.com

#### TC Representative

Dr. Polina Kuzhir  
 INP-BSU, Belarus  
 polina.kuzhir@gmail.com

## Progress of secondments in 2017-2018:

Completed in the 1 <sup>st</sup> stage	Planned for the 1 <sup>st</sup> stage
<b>64</b> Seconded Researchers	<b>45</b> Seconded Researchers
<b>96</b> Researcher Declarations	<b>91</b> Researcher Declarations
<b>161</b> Months Funded by EU	<b>198</b> Months Funded by EU
<b>171</b> Total Researcher Months	<b>231</b> Total Researcher Months

## Dissemination of Project Results in 2017-2018:

- Project publications in IF journals: **33** vs. >20 in KPIs
- Open access publications: **10** vs. >10 in KPIs
- Submitted publications under review: **8**
- Invited talks in International Conferences: **16** vs. >10 in KPIs
- Conference Presentations: **15**
- Internal Seminars with Seconded Researchers: **39**

## Project Events in 2018:

- International Workshop on "Nanocomposite polymers for 3D printing of high-tech structures", 22 - 23 May 2018, at UNamur, Namur, Belgium
- MB and Mid-Term Review Meeting with the EC, 24-25 May 2018, at UNamur, Namur, Belgium



## Upcoming Events:

Training school for ESRs at UniSa, Salerno, Italy will be held jointly with SS7 Special Session "Graphene-based devices: modelling and experimental results" during the 13th International Conference Electrimacs'2019 that will take place in Salerno (ITALY) 21st-23rd May 2019.

### WP Leaders:

#### WP1: Project Management and Coordination

Prof. Rumiana Kotsilkova  
 IMech-BAS, Bulgaria  
 kotsilkova@yahoo.com

#### WP2: Processing and rheological control of nanocomposites

Dr. Marino Lavorgna  
 CNR / IPCB, Italy  
 mlavorgn@unina.it

#### WP3: Characterization of hybrid structure and morphology

Dr. Clara Silvestre  
 CNR / IPCB, Italy  
 clara.silvestre@ipcb.cnr.it

#### WP4: Characterization of nanocomposite properties around percolation threshold

Dr. Patrizia Lamberti  
 Uni Salerno, Italy  
 plamberti@unisa.it

#### WP5: Robust nanocomposite design and optimization of material's formulation

Dr. Patrizia Lamberti  
 Uni Salerno, Italy  
 plamberti@unisa.it

#### WP6: Modeling, simulation and optimization of nanocomposite cellular structures

Prof. Philippe Lambin  
 UNamur, Belgium  
 philippe.lambin@unamur.be

#### WP7: Prove of design concept by experimental validation of 3D printed cellular structures.

Dr. Evgeni Ivanov  
 NANOTECHLAB, Bulgaria  
 ivanov\_evgeni@yahoo.com

#### WP8: Dissemination, exploitation of results & communication.

Prof. Rumiana Kotsilkova  
 IMech-BAS, Bulgaria  
 kotsilkova@yahoo.com

#### WP9: Ethics requirements

Prof. Rumiana Kotsilkova  
 IMech-BAS, Bulgaria  
 kotsilkova@yahoo.com

### PROJECT CONTACTS:

[graphene3d.project@gmail.com](mailto:graphene3d.project@gmail.com)

<http://graphene3d.imbm.bas.bg>