The Researcher

Dr. ANASTASIA BEKETOVA
DDS, MS, PhD

Dentist, Master in Fixed Prosthesis and Implant Prosthodontics, PhD Post-doc researcher at the Aristotle University of Thessaloniki (AUTh)

- 2002-2007 Doctor-Dental specialist, National Medical University, Kyiv, Ukraine

Student of the year 2007
awarded by Scholarship of the Prime Minister of Ukraine
Opened new horizons

- 2007-2011 Erasmus Mundus Master in Fixed and Implant Prosthodontics, AUTh

- 2016 PhD in Dental Biomaterials, AUTh

Dissertation topic "Investigation of the effect of laser light on ceramic materials' surface"

- From 2017 Post-doc researcher AUTh, Dept. Prosthodontics "Dental and Craniofacial Bioengineering & Applied Biomaterials"
  (Laboratory of Bioceramics Synthesis, Professor Eleana Kontonasaki)

https://kont.webpages.auth.gr/
https://prosthodontics.dent.auth.gr/dental-craniofacial-bioengineering-and-applied-biomaterials-ms/

Τμήμα Οδοντιατρικής
Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης

The Researcher

Dr. ANASTASIA BEKETOVA
DDS, MS, PhD

Dentist, Master in Fixed Prosthesis and Implant Prosthodontics, PhD
Post-doc researcher in the Aristotle University of Greece

Authorship activity:

- 10 publications in international scientific journals,
- more than 20 announcements to international scientific conferences
- participation in international research projects (IKY-DAAD I-SMarD Horizon)
- More than 10 scholarship awards for excellent achievements in studies & research contributions

Research interests:

- Bioceramics, sol-gel synthesis and characterization, nanoparticles, nanozirconia, bioglass, cell cultures, drug development, laser materials processing , bacteriological studies

Teaching:

- Clinical instructor in Fixed Prosthodontics in students of 7th and 8th semester
- Tutor in Master Program “Dental and Craniofacial Bioengineering & Applied Biomaterials”

Professor Janis Locs, Supervisor

- PhD in Materials Science in 2009
- Was involved in 6 COST Actions, has led Latvian unity of 6 international and H2020 cooperation projects and currently is coordinating 2 H2020 Projects.
- supervised 16 Master and 10 PhD Thesis and 4 Post-Docs.
- main competences are synthesis and upscaling processes in nanotechnologies.
- over 90 publications and patents (H-Index 19)..
- coordinator of H2020 Teaming Baltic Biomaterials Center of Excellence (BBCE) project with total budget of >30 MEUR.

Professor Dagnija Loca , Co-supervisor

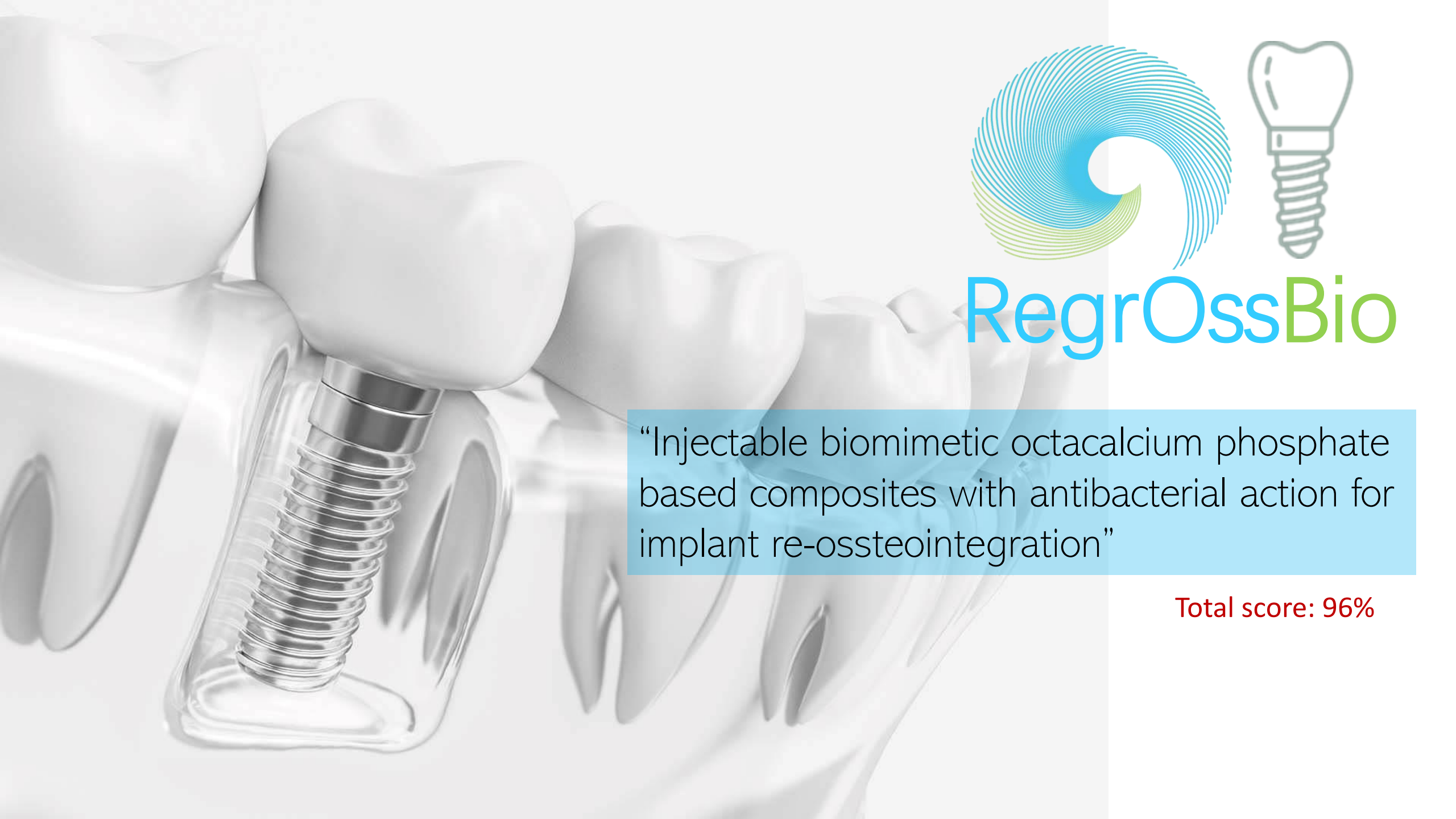
- PhD in Materials Science in 2009 on development of controlled release drug delivery systems.
- involved in several COST actions, led Latvian part of 3 international cooperation projects, and was coordinator of National Research Programme (IMIS2) Project 4 and WP leader in 2 H2020 projects.
- supervised 11 Master, 6 PhD Thesis and 5 Post-Docs and will be responsible for drug delivery system development.
- She has more than 50 publications and patents. H-Index: 13 (FTE: 10%).

Riga Technical University (RTU)
The Rudolfs Cimdins Riga Biomaterials Innovations and Development Centre (RBIDC)

RTU is the largest science-based university in the Baltic States established in 1862.
RTU gathers more than 16000 students, staff of 611 people for research and 572 for teaching, it has scientific infrastructure and administrative facilities of total area more than 1000 m2.

RTU RBIDC develops new implant materials for medical applications have been tested in clinical practice for more than 20 years in more than 400 patient cases.

Its research team consists of 50 chemical engineers and materials scientists, with experience in coordination and participation in H2020, ESF, ERDF, EURONANOMED and ERA-NET projects.



RegrOssBio

"Injectable biomimetic octacalcium phosphate based composites with antibacterial action for implant re-osseointegration"

Total score: 96%

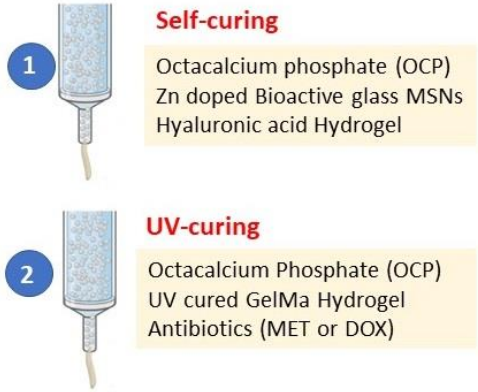
The Concept

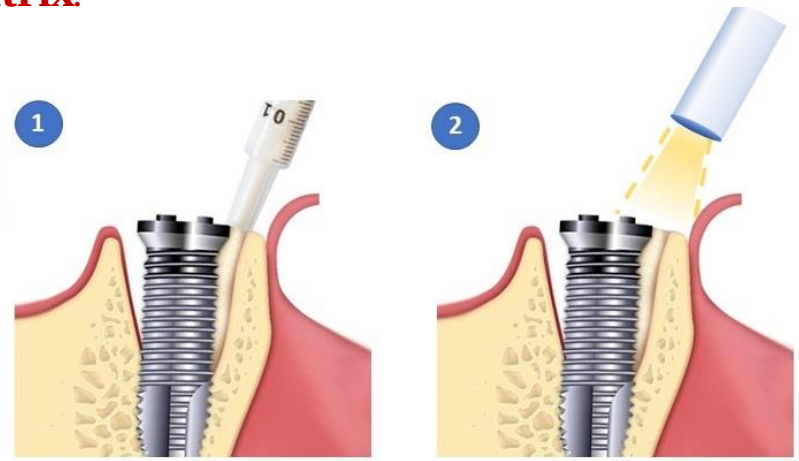
RegrOssBio

Periimplantitis (PI) is an infectious disease of gingival tissues and implant surrounding bone which affects 43% of the placed dental implants, ending with implant loss in half of the cases.

It means that a patient (senior) will undergo implant replacement surgery, and bone grafting procedures with corresponding costs, pain, and discomfort, reducing his chewing ability and life quality

AIM: is to develop biomimetic injectable CaP-based pastes with antibacterial properties for treatment of PI, by utilizing biocompatible materials, such as octacalcium phosphate (OCP) and natural hydrogels (hyaluronic acid and functionalized gelatin) that closely resemble to the composition of inorganic and organic components of the bone extracellular matrix.





Clinically oriented
Caring about patients' health and comfort
No commercially available analogs

My experience in PF proposal writing

RegrOssBio

Generation of idea
2-3 weeks

Proposal writing
-2-3 weeks

Proposal correction
1-2 weeks

Research proposal writing and idea generation is my strong side
(I wrote more than 10 research proposals including Horizon)
The most difficult part-conceptualization and finding out mutual interests
Biggest challenge to keep it concise 10 pages
Insights: be realistic, "not to fly above the sky" (only 5% of ideas go to the market)

Synergy with supervisor

RegrOssBio

My experience: Excellent synergy with collaborators

1 STEP: Finding the Collaborator

I found the collaborator at the Marie Curie applicants platform
Accidentally, the Head of our Department Prof. Koidis, knew personally Prof. Locs and encouraged me to contact him
I contacted Professor Locs 2 months before the deadline
Communication via email and zoom meetings (technical issues)
I communicated only with one Institution, no Plan B

2 STEP : Conceptualization

Study literature of the Host research team
Consider mutual interests and be realistic

3 STEP : Proposal writing

Part B-1

1. Excellence

1.1. Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)

1.2. Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices).

1.3. Quality of the supervision, training and of the two-way transfer of knowledge between the researcher and the host

1.4. Quality and appropriateness of the researcher's professional experience, competences and skills

2. Impact

2.1. Credibility of the measures to enhance the career perspectives and employability of the researcher and contribution to his/her skills development

2.2. Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities

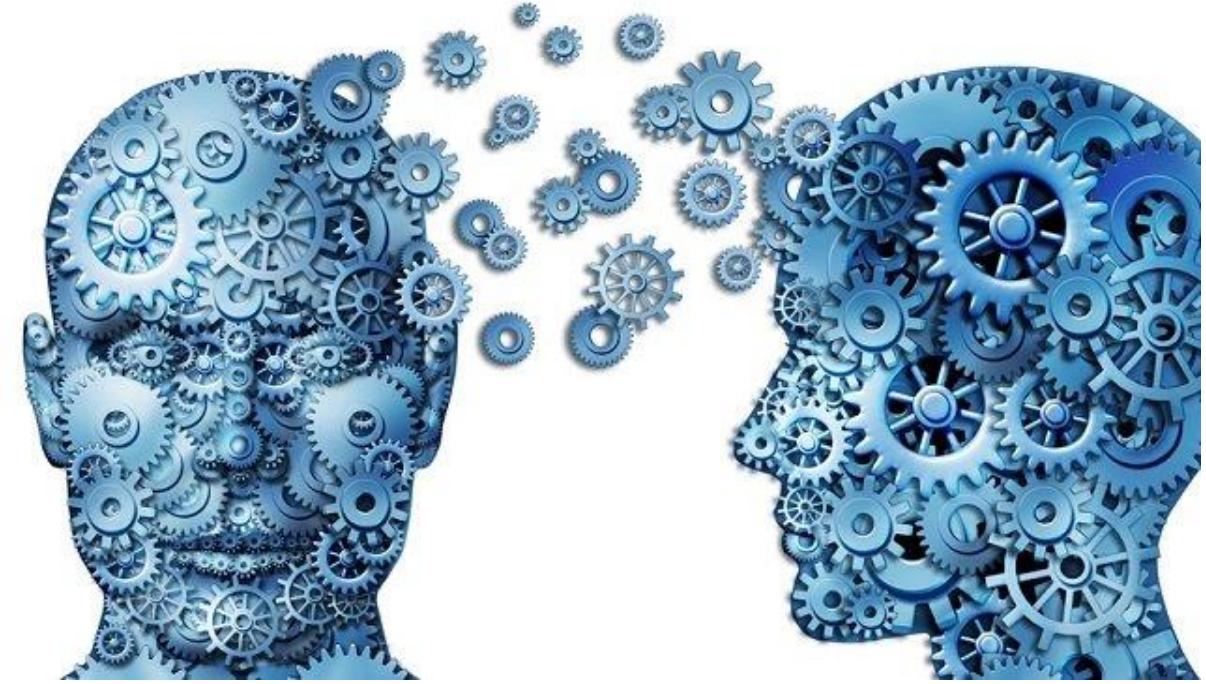
2.3. The magnitude and importance of the project's contribution to the expected scientific, societal and economic impacts

3. Quality and Efficiency of the Implementation

3.1. Quality and effectiveness of the work plan, assessment of risks and appropriateness of the effort assigned to work packages

3.2. Quality and capacity of the host institutions and participating organisations, including hosting arrangements

Two-way transfer of knowledge



- Training in new materials and techniques
- Practical skills in new characterization methods
- Experience in product commercialization
- Participation in trainings and summer schools
- New mind sets and approaches for research and innovation
- Establish new connections with RTU partners

- Share experience in the organization of new laboratories
- Share hands-on experience biological characterization of biomaterials
- Integration of knowledge in biomaterial engineering with clinical reality
- Supervision of students and participation in educational process
- Participation in proposal writing
- Establish cooperation with AUTh

RegrOssBio

- Strictly follow the rules stated in the template follow the advices of the supervisor
- Keep the idea simple and understandable
- Avoid using complicated terms in your text
- Give the basic idea of your project in the first 15-20 lines of text in introduction
- Give exact economical evaluation in Euros that would favor the society
- In career development plan give exact terms

- Part 3.1 Keep the WP as it is stated in the template

WP1 Synthesis of the starting materials, including Zn-doped mesoporous nanoparticles (Zn-MSNs)

Characterization (FTIR, XRD, SEM-EDS, TEM), evaluation of the degradation/bioactivity and antibacterial properties Zn-MSNs

WP2 Synthesis of the composite pastes

Evaluation of the rheological (viscosity, injectability) and handling properties (cohesivity and setting time) of the pastes

Characterization of the as-hardened pastes: *in vitro* degradation/bioactivity, compressive strength

WP3 Drug loading of the optimum injectable pastes

Evaluation of biocompatibility, osteoinductive and antibacterial properties of the produced pastes

WP4 Dissemination/exploitation, communication/public engagement
WP 5. Training and transfer of knowledge
WP 6. Research data management

- Give realistic terms and realistic deliverables (1-2 scientific articles, 2-3 conferences)
- In order to condense your text make images from your tables

Useful resources for preparing application

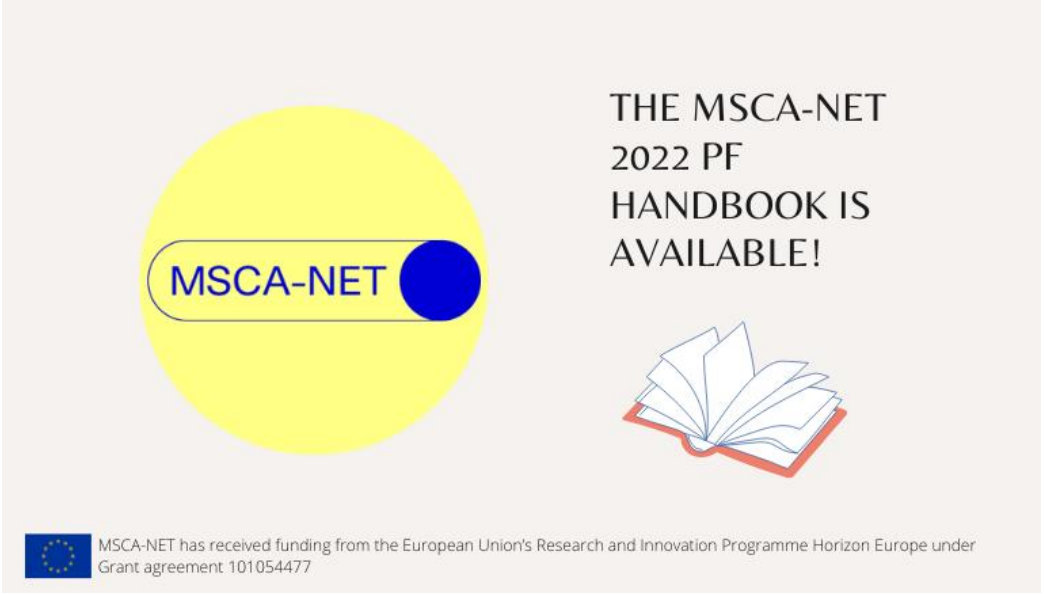
I used only Marie Curie Template and
MSCA POSTDOCTORAL FELLOWSHIPS
HANDBOOK CALL 2022

Additionally

Scientific articles (al least 20)

You tube videos concerning open science practices and results dissemination

Personal communications with experts in periodontology, polymer chemistry and ceramic nanoparticles



Acknowledgements

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Liene Ekša for kind invitation

Professor Locs and Professor Loca

Project officer Elisa Vergari , Sandra Vasiļevska,
Ilze Pusbarniece, Zane Meldrāja for coordination and documentation issues

Professor Eleana Kontonasaki and Professor Petros Koidis

Thank you for your attention and time!