Curriculum Vitae

April 2025

ARDHANI Retno

Dr. DDS., M.Sc.

Associate Professor at the Department of Dental Biomedical Sciences
Born in March 1983, Jayapura, Indonesia, lives in Yogyakarta, Indonesia

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Retno Ardhani is an Associate Professor at the Department of Dental Biomedical Sciences at the Faculty of Dentistry, Universitas Gadjah Mada (UGM) and a dentist at Prof. Soedomo UGM Dental Hospital. She was previously holding the title of Head of the Magister Study Program of Clinical Dentistry Sciences, and she spearheaded the Preclinical and Skills Laboratory and the Facilities and Procurement Unit at UGM.

With foundational achievements already during her studies at UGM, she furthered her academic pursuit with a Master's and PhD's in research on peripheral nerve regeneration. In collaboration with Prof. Yasuhiko Tabata and Prof. Ika Dewi Ana, her signature research footprint evolved around innovative carbonate apatite-gelatin membrane for peripheral nerve regeneration, marking a significant advancement in the field.

Her interest in bone and periodontal regeneration, dental implants, and nerve tissue engineering, among others, brings her a lot of experience in doing various material characterizations, bacterial and cell cultures, and small animal model experiments. Internationally acknowledged, Retno Ardhani was recently granted the Ernst Mach Grant – ASEA-UNINET postdoctoral scholarship, during which she is working on antimicrobial regenerative membranes together with Univ. Prof. Dr. Erik Reimhult and his team at the Department of Bionanoscience (now is the Department of Natural Sciences and Sustainable Resources), University of Natural Resources and Life Sciences, Vienna (BOKU).

Her research projects since 2014 have been substantial, exploring areas like surface treatment of a regenerative implant, drug/cell delivery system, and biocompatibility. With a diverse publication record, she's also been instrumental in patenting groundbreaking inventions in dental sciences. She has been committed to adapting global technologies to local needs, aiming to develop affordable regenerative therapy tailored to Indonesia's oral health challenges.

Collaborating globally, she has engaged with institutions like the Ministry of Industry, the Republic of Indonesia, the National Research and Innovation Agency of the Republic of Indonesia, and Universiti Kebangsaan Malaysia. Fluent in multiple languages and having undertaken various international trips, Retno Ardhani has a global footprint in dental sciences, underpinned by her vast experience and several study and training trips abroad.

Current Positions

2023	to date	**Associate Professor** at the Department of Dental Biomedical Sciences Faculty of Dentistry UGM
2015	to date	**Dentist** at the General Care Unit of Prof. Soedomo Dental Hospital UGM
2011	to date	**Lecturer** at Faculty of Dentistry UGM

Milestones and Education

2017	to date	Supervisor of Master (5) and PhD theses (4)
2024	2025	University Task Force for Intellectual Properties
	2023	Postdoctoral scholarship – Ernst Mach Grant – ASEA-UNINET OeAD Austria's Agency for Education and Internationalization Research Topic "Development of Antimicrobial-Tissue Regenerative Membrane for the Treatment of Periodontitis" Univ.Prof. Dr. Erik Reimhult Department of Natural Sciences and Sustainable Resources Institute of Colloid and Biointerface Science University of Natural Resources and Life Sciences, Vienna (BOKU University)
	2020	Ministry of Education, Culture, Research, and Technology National Research and Innovation Agency Awarded for a high-quality paper in the research field of medicals and drugs
2021	2023	Head of Magister Study Program of Clinical Dentistry UGM
2021	2022	Procurement Committee International Competitive Bidding JICA Project IP-576, UGM
	2021	University Task Force for the National Drugs and Medical Devices Independence
2020	2022	Head of Preclinical and Skills Laboratory, Faculty of Dentistry UGM
	2019	Good Clinical Practices Training
2018	2021	Head of Facilities and Procurement Unit, Faculty of Dentistry UGM
	2018	Basic Level Certification for Government Procurement Expert
2017	2023	Person in Charge for Japan-Indonesian Cooperation Agency Project Dental-Learning Center (Academic Innovation and Equipment Procurement)
	2015	The International Society for Ceramics in Medicine Best Oral Presenter at Bioceramic 15
2013	2017	Doctoral studies of Dental Sciences at the Faculty of Dentistry/UGM in collaboration with the Department of the Institute for Frontier Medical Sciences, Kyoto University, Japan (Univ.Prof. Dr. Yasuhiko Tabata) PhD thesis (Dental Sciences) "Carbonate apatite-gelatin membrane to modulate axonal microenvironment and regenerate peripheral nerve " Financed by *Indonesian Endowment Fund Ministry of Finance Republic of Indonesia*
2012	to date	Lecturer tenure at the Ministry of Education, Culture, Research, and Technology / Indonesia to be assigned at the Faculty of Dentistry UGM
2011	to date	Lecturer at the Faculty of Dentistry UGM under University employment
2009	2011	Magister studies of Basic Medical and Biomedics at the Faculty of Medicine / UGM Master thesis (Basic Medical and Biomedics): "Peripheral nerve regeneration on combined implantation of gelatin hydrogel membrane as a scaffold and platelet-rich plasma as growth factors donor "; Faculty of Public Health, Medicine, and Nursery / UGM

		Financed by *International Collaboration Bureau Ministry of Education and Culture Republic of Indonesia*
2006	2009	**Professional Dentist Training** at Faculty of Dentistry / UGM **Patient management in stations** Oral and Maxillofacial Surgery Oral Medicine, Periodontology Prosthodontics Orthodontics Pediatric Dentistry. **Multidisciplinary work and public health in stations** Primary health care (Puskesmas Godean 1) Referral hospital (Public General Hospital of Wates Kulon Progo and Public General Hospital of Dr. Sardjito) Dental forensics Financed by *Listerine Award*
2001	2006	Undergraduate Studies of Dentistry at Faculty of Dentistry, Universitas Gadjah Mada **Undergraduate Thesis**: *"Gambaran klinis ulkus akut karena trauma pada pasien dengan riwayat ulkus kambuhan* (Clinical evaluation of acute traumatic ulceration in patients with history of recurrent ulcers)" Financed by *Supersemar* dan *Bank Indonesia*

Lectures (Selection)

(1) Tissue Engineering
(2) Infections, Inflammations and Regeneration (Lecture series, Theory and Practice)
(3) Dentomaxillofacial Abnormalities (Lecture series, Theory and Practice)
(4) Human Body System (Lecture series, Theory and Practice)
(5) Animal Models in Research
(6) Innovation and Technology in Dentistry
(7) Immunobiology
(8) Regenerative Dentistry
(9) Pulp and Periradicular Tissue: Regenerative Endodontics
(10) Laboratory Techniques

Research and expertise (main areas and key words)

Periodontal Tissue Regeneration (Periodontitis, biodegradable scaffold, biomolecule-delivery system, anti-microbial)
Dental Implant (Nanotopography, surface modification, cell-bacterial response)
Nerve Tissue Engineering (Peripheral nerve injury, regenerative nerve conduit, Platelet-rich plasma)
Bio-based Therapeutics

(Fish mucus-based-synthetic saliva, fucoidan, gelatin, hydroxyapatite, chitosan)

Additional qualifications and skills

Languages: Bahasa Indonesia (native), English (IELTS score 7.0), German (A1), Japanese (entry-level)

Driving licence: categories A, B

Several courses in project management leadership behaviour rhetoric and teaching

Study trips out of Indonesia: Austria, China, France, Japan, Malaysia, Singapore, United States, Uganda

Community services and higher education

Reviewer for scientific journals (6)

2025	to date	F1000 (Scopus)
2024	to date	Polymer Science and Engineering (Web of Science)
2023	to date	Future Microbiology (Scopus)
2022	to date	Journal of Applied Oral Science (Web of Science)
2019	to date	Member of the Indonesian Biorisk Association (ID ABI164)
2015	to date	Tissue Engineering and Regenerative Medicine International Society Member (ID 11192)
2011	to date	Majalah Kedokteran Gigi Klinik
2011	to date	Majalah Kedokteran Gigi Indonesia
2010	to date	Community dental health education and medical check-ups (min twice a year)
2010	to date	Member of the Indonesian Dentist Association (ID 1405.006140)

National and International Synergistic Activities

2022	to date	Research on surface-treated biomaterial with dual ability on repelling microbial and attracting regenerative cells. Collaborators Research Center for Polymer Technology, the National Research and Innovation Agency, Indonesia Department of Bionanosciences, BOKU University, Austria Laboratory of Biomedical Nanoengineering, Flinders University, Australia Department of Materials Design and Innovation, University at Buffalo, USA
2020	2023	Research and development of calcium phosphate-based composite for biomedical purposes composite Collaborators Center of Leather, Rubber, and Plastic (Ministry of Industry Republic of Indonesia) Center of Ceramics (Ministry of Industry Republic of Indonesia)
2020	to date	Research and development of biomaterial and biotechnology approaches for medical purposes Collaborator Faculty of Medicine, Universiti Kebangsaan Malaysia
2019	2021	Research and development of periodontal membrane

		Collaborators Center of Leather, Rubber, and Plastic (Ministry of Industry Republic of Indonesia) Medical Faculty (Indonesian Catholic University Atmajaya Jakarta)
Projects since 2014 (18)		*Title* Position Funding body Partners
2025	to date	*In vitro studies on okadaic acid and hyaluronic acid as protein phosphatase 2A inhibitor to induce bone regeneration* Team Member Faculty of Dentistry UGM
	2024	*Catfish mucus-based synthetic saliva for dry mouth management* Team Member Ministry of Education, Culture, and Higher Education – National Competitive Research Fund – Matching Fund Scheme Kedaireka UGM, CV. Indoraya Internasional
	2024	*In vitro evaluation of dental pulp cell responses on gelatin microsphere as an alternative for calcium hydroxide in regenerative endodontic procedure* Principle Investigator Faculty of Dentistry UGM UGM
	2024	*The systemic effect of catfish epidermal mucus-based synthetic saliva on the vital internal organs (a study on Rattus novergicus rat)* Team Member Faculty of Dentistry UGM UGM
	2024	*The development of gelatin-chitosan-TEOS-Ca(OH)2 as a pulp capping material* Team Member Faculty of Dentistry UGM UGM
2023	to date	*Nanocoatings for bone repair through surface-attached plasma film* Team Member National Research and Innovation Agency UGM, National Research and Innovation Agency
	2023	*Biological characterization and biocompatibility study of gelatin-CHA-chitosan-APTES-TEOS for biomedical application* Principle Investigator Ministry of Education, Culture, and Higher Education – National Competitive Research Fund – Fundamental Research Scheme UGM, National Research and Innovation Agency
	2023	*In vivo evaluation of dental pulp response on gelatin-chitosan-TEOS-Ca(OH)$_2$ composite* Team Member Faculty of Dentistry UGM UGM, National Research and Innovation Agency, University of Kebangsaan Malaysia
	2022	*Research and innovation's policy convergence for supporting the resiliency of medical devices in Indonesia* Team Member UGM – mandated research UGM
	2022	*The influence of Perna Viridis-derived apatite on dental remineralization* Principal investigator Faculty of Dentistry UGM

		UGM
	2022	*Regenerative therapy evaluation by nanomaterial application on periodontitis patients* Team Member Faculty of Dentistry UGM UGM
	2021	*Molecular Docking Study of Pentagamavunon-0 (PGV-0) as an inflamatory agent on temporomandibular joint osteoarthritis via IL-1β, COX-2, and IL-6 inhibition* Team Member UGM – Fund for Final Projects Recognition UGM
2020	2021	*Dual-functionality of periodontal scaffold* Team Member and UGM Coordinator *Alexander von Humboldt Foundation* – Digital Cooperation Ministry of Industry, UGM, University of Freiburg (Germany)
2019	2020	*The development of periodontal membrane from natural and synthetic polymer* Team Member and UGM Coordinator Ministry of Industry Republic of Indonesia Ministry of Industry, UGM, UNIKA Atma Jaya, University of Freiburg (Germany)
2019	2020	*Antibiofouling thin film for drug delivery* Team Member and UGM Coordinator Alexander von Humboldt Foundation – Return Fellowship Ministry of Industry, UGM, UNIKA Atma Jaya, University of Freiburg (Germany
	2019	*The influence of metronidazole-delivery system composition on ligament periodontal fibroblast behaviour* Principal investigator Faculty of Dentistry UGM UGM
	2019	*Clinical research of gelatin-carbonated apatite membrane as drug delivery system on chonic periodontal patients* Team Member UGM – Fund for Final Projects Recognition UGM
	2018	*Development of the Next Generation Medical Devices: Membrane for cranial injury and injectable scaffold from carbonate apatite-based material for regenerative therapy of hard tissue defect* Team Member Educational Fund Management Institution - Ministry of Finance Republic of Indonesia UGM
	2018	*Development of Apatite Exhibiting Antimicrobial Properties And Bioactivity Testing in View of Clinical Applications in Tropical Dentistry* Team Member Educational Fund Management Institution - Ministry of Finance Republic of Indonesia UGM
	2016	*Preparation of gelatin-carbonate apatite scaffold as conduit to inducing regeneration on vast peripheral nerve defect* Team Member UGM- Fund for Applied Research(Penelitian Terapan Unggulan Perguruan Tinggi) UGM
	2015	*Knockdown Impression Tray Prototype* Principal investigator UGM – Fund for Prototype Development UGM
	2015	*Development of the next generation of gelatin and carbonate apatite-based medical devices for regenerative therapy of nerve and bone tissue's defect*

	Team Member Educational Fund Management Institution - Ministry of Finance Republic of Indonesia UGM
2014	*Peripheral nerve system's responses on environmental modulation after neuroetmesis injury* Principal investigator UGM – Research Fund for Young Lecturer UGM

Publications

Scopus h Index (7); 32 documents listed on scholar.google.com

International Peer-reviewed Journal

Ghadah Abdulrahman, A. Q., Endytiastuti, E., **Ardhani, R.**, Sutardjo Rus Sudarso, I., Pidhatika, B., Fauzi, M. B., Susilowati, H., Kristanti, Y., & Handajani, J. 2025. Evaluating the Efficacy of Gelatin-Chitosan-Tetraethyl Orthosilicate Calcium Hydroxide Composite as a Dental Pulp Medicament on COX-2, PGP 9.5, TNF-α Expression and Neutrophil Number. F1000Research 2025, 13: 1258. https://doi.org/10.12688/f1000research.156336.2.

Pidhatika, B., **Ardhani, R**., Swasono, Y. A., Anggraeni, R., Adriyanti, W., Santosa, F.A., Rudianto, R. P., Ana, I. D., Dewi, A. H. 2024. Advancing bone regeneration: the impactful role of plasma technology. Plasma Processes and Polymers 22 (2): 1-32. https://doi.org/10.1002/ppap.202400171.

Windakhrisma, A.A., **Ardhani, R.**, Soesilowati, A.S.K., Handajani, J., Syaify, A. The healing of post-curettage chronic periodontitis on the implantation of carbonate apatite-gelatin film as a chlorhexidine delivery system (a randomized-controlled trial). Malaysian Journal of Medicine and Health Sciences 20 (Supp5): 40-45. https://medic.upm.edu.my/upload/dokumen/202406271640268_1150.pdf.

Wibowo, R., Latianny, S.P., **Ardhani, R.**, Handajani, J., Syaify, A. The effect of local administration of metronidazole from carbonate apatite-gelatin film on the healing of chronic periodontitis post-curretage. Malaysian Journal of Medicine and Health Sciences 20 (Supp5): 35-39. https://medic.upm.edu.my/upload/dokumen/202406271639467_1149.pdf.

Handajani J., **Ardhani, R.**, Sudarso, I.S.R., Pidhatika, B., Al qatta, G.A.M., Endytiastuti, Fauzi, M.B. 2024. Evaluation of the expression of nestin in the pulp after application of gelatin-chitosan-tetraethyl orthosilicate calcium hydroxide composite. Malaysian Journal of Medicine and Health Sciences 20 (Supp5): 29-34. https://medic.upm.edu.my/upload/dokumen/202406271639066_1148.pdf.

Ninan N., Pidhatika, B., Bright R., Kartika, B.M., Rudianto, R.P., Swasono Y.A., **Ardhani, R.**, Vasilev, K. 2024. Advancing sustainable technologies: plasma-engineered bioplastics with silver nanoparticle integration. Journal of Material Science 59: 9003-9020. https://doi.org/10.1007/s10853-024-09673-7.

Mahmudi M., **Ardhani R.**, Pidhatika B., Suyanta S., Swasono, Y.A., Rudianto, R. P., Nuryono, N. 2024. Development of a local drug delivery system for promoting the regeneration of infective bone defect: composite films with controlled properties. Polymer Bulletin 81: 11215–11238. https://doi.org/10.1007/s00289-024-05243-8.

Hudiyati, M., Sunarintyas, S., **Ardhani, R.**, Isnansetyo, A. 2024. Theurapeutic potential of fucoidan in dentistry: a review. Journal of Herbmed Pharmacology 13 (2): 188-198. https://doi.org/10.34172/jhp.2024.48302.

Herbanu, A., Ana, I.D., **Ardhani, R.**, Siswomihardjo, W. 2023. Fibrous pva matrix containing strontium-substituted hydroxyapatite nanoparticles from golden apple snail (Pomacea canaliculata L.) shells for bone tissue engineering. Bioengineering 10 (844): 1-19. https://www.mdpi.com/2306-5354/10/7/844.

Amalina, R., **Ardhani, R.**, Yusuf, Y., Susilowati, H. 2023. Fabrication and physicochemical properties of a novel gel-like liquid chitosan-carbonated hydroxyapatite from asian moon scallop (Amusium pleuronectes) for periodontal application. Journal of International Dental and Medical Research 16 (2): 588-593.http://www.jidmr.com/journal/wp-content/uploads/2023/06/21D23_2173_Heni_Susilowati_Indonesia-1.pdf.

Pidhatika, B., Widyaya VT., Nalam PC., Swasono YA., **Ardhani**, **A**. 2022. Surface modifications of high-performance polymer polyetheretherketone (PEEK) to improve its biological performance in dentistry. Polymers 14: 1-42. https://doi.org/10.3390/polym14245526. 16 December 2022

Ardhani, R., Diana, R., Pidhatika, B., 2022. How Phorphyromonas gingivalis navigate the map: the effect of surface topography on the adhesion of Phorphyromonas gingivalis on biomaterials. Materials 15(4988): 1-13. https://doi.org/10.3390/ma15144988.

Ardhani, R., Suraya, T., Wulanjati, M.P., Ana, I.D., Rühe, J., Pidhatika, B., 2022. Photoreactive polymer and C,H-

insertion reaction to tailor the properties of CHA/gelatin-based scaffold. International Journal of Polymer Analysis and Characterization 27(5): 326-345. https://doi.org/10.1080/1023666X.2022.2076012.

Herbanu, A., Ana ID., **Ardhani R.,** Siswimihardjo W., 2021. The Roles of Strontium Ions in Regenerative Dentistry: Cells Interaction, Mechanism of Action, and Future Perspective. Annals of Romanian Society of Cell Biology 25(3): 5617-5637. http://annalsofrscb.ro/index.php/journal/article/view/2095/1739.

Diana R., **Ardhani R.,** Kristanti Y., Santoso P., 2020. Dental pulp stem cells response on the nanotopography of scaffold to regenerate dentin-pulp complex tissue. Regenerative Therapy 15: 243-250. https://doi.org/10.1016/j.reth.2020.09.007.

Naomi R., **Ardhani R.**, Hafiyyah OA., Busra MF., 2020, Current insight of collagen biomatrix for gingival recession: an evidence-based systematic review, Polymers 12(2081): 1-25. https://doi.org/10.3390/polym12092081.

Ardhani R., Ana ID., Tabata Y., 2020, Gelatin hydrogel membrane containing carbonate hydroxyapatite for nerve regeneration scaffold, J Biomed Mater Res 108: 2491-2503. https://doi.org/10.1002/jbm.a.37000.

Ardhani R., Setyaningsih, Hafiyah OA., Ana ID., 2016. Preparation of carbonated apatite membrane as metronidazole delivery system for periodontal application, Key Eng Mater 696: 250-258. https://doi.org/10.4028/www.scientific.net/KEM.696.250.

Patriati A., **Ardhani R.**, Pranowo HD., Putra EGR., Ana ID., 2016, The effect of freeze-thaw treatment to the properties of gelatin-carbonated hydroxyapatite membrane for nerve regeneration scaffold, Key Eng Mater 696: 129-144. https://doi.org/10.4028/www.scientific.net/KEM.696.129.

Oktaviana E., **Ardhani R.,** Yulianto HDK., 2016, Inappropriate toothbrushes selection alter composite dental material restoration surface roughness: a preliminary study, Key Eng Mater 696: 108-112. https://doi.org/10.4028/www.scientific.net/KEM.696.108.

Ardhani R., Susilowati R., Ana IK., 2015, Functional Recovery of Axonal Injury Induced by Gelatin-Hydrogel Film and PRP: An Initial Study in Rats, J Biomedical Science and Engineering 8: 160-169. DOI: https://doi.org/10.4236/JBISE.2015.83016.

National peer reviewed journal (accredited)

Listyarifah, D., Fortuna, G., Pramuditya, R.C., Dewi, A.H., **Ardhani, R.** Kompatibilitas bahan implant tulang hidroksiapatit dan karbonat hidroksiapatit di jaringan lunak (Compatibility study of hydroxyapatite and carbonated hydroxyapatite bone implant on soft tissue). Majalah Kedokteran Gigi Klinis 8 (3): 87-95. https://jurnal.ugm.ac.id/mkgk/article/view/83547.

Utomo, H., Nurputra, DK., **Ardhani, R.,** 2023. Konvergensi Kebijakan Riset dan Inovasi untuk Resiliensi Industri Alat Kesehatan di Indonesia (Research and innovation's policy convergence for supporting the resiliency of medical devices in Indonesia). JKKI 12 (1): 47-59. https://doi.org/10.22146/jkki.81408.

Dewi, AH., Listyarifah, D., **Ardhani, R.**, 2023. A histological evaluation of cellular response on bone regeneration scaffold. Maj Ked Gi Ind 9 (1): 22-29. https://doi.org/10.22146/majkedgiind.77449.

Book and Book Chapters

Hafiyyah O.A., Widagdo, A.K., Syaify, A., **Ardhani, R.** 2024. Recent bio-based material strategies to regenerate periodontal tissue in clinical setting in Functional Bio-based Materials for Regenerative Medicine (Part 2). Bentham Books. ISBN: 9789815179330.

Syaify, A., Handajani, J., **Ardhani, R.** 2023. Periodontitis diabetika -aspek klinis dan imunologis (Diabetic periodontitis – clinical and immunological aspects). UGM Press. ISBN: 978-623-359-219-2.

Bidhari P, Prasetyanto EA, **Ardhani R.**, 2021, Permukaan biomaterial: strategi modifikasi, karakterisasi, dan respon tubuh (Biomaterial surfaces: modification strategies, characterization, and body's response). UGM Press. ISBN: 978-623-359-024-2.

Ardhani R. 2021. Laboratorium pada pengembangan dan hilirisasi alat kesehatan, dalam Dari Hulu ke Hilir Perjalanan Sebuah Alat Kesehatan (Laboratory in the development and downstreaming of medical devices: In From upstream to downstream journey of a medical devices). UGM Press. ISBN: 9786023869831

Ana ID., Satria GAP., Dewi AH, **Ardhani R.,** 2018, Bioceramics for clinical application, in regenerative dentistry in Novel Biomaterials for Regenerative Medicine. Springer

Non-scientific community communications

Ardhani R., *Resensi: seri methods in molecular biology* (Review: Series of Methods in Molecular Biology), 2017. Jurnal Teknosains 7(1): 74-77

Ardhani R., *Cedera dan Regenerasi Saraf* (Injury and Regeneration of Nerve) in Military Dentistry December 2016 Edition, ISSN: 2460-9080

Intellectual Properties and Patents
Saliva artifisial berbasis musin ikan Clarias sp. (**Clarias sp. Mucus based-artificial saliva**), registered 2024, ID: S00202409609
Apatit tersubstitusi ion strontium dengan kristalinitas rendah dari sumber kalsium biogenik untuk cangkok tulang dan material dasar rekayasa jaringan (**Strontium-subsituted apatite with low crystallinity from biogenic calcium sources for bone graft**), registered 2024, ID: P00202400802
Membran periodontal dengan stabilitas dan kekuatan mekanik yang terkontrol dan proses penyiapannya (**Periodontal membrane with controlled stability and mechanical strength and its preparation methods)**, registered 2020 ID: P00202006540 (with Center of Leather, Rubber, and Plastic, Ministry of Industry Republic of Indonesia)
Film multifungsi berbasis karbonat apatit sebagai sumber mineral dan sistem pembawa molekul aktif atau biomolekul **(Carbonated apatite-based multifunctional film as mineral source and delivery system for active molecules and biomolecules**), registered 2019 ID : P00201904825 (UGM))