

PhD Beata Gromadzka



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Laboratory skills

Mammalian cell culture (HEK, CHO, HaCaT, MDCK.2, A549, HeLa, U87MG, WI-38, hFOB, Vero, SH-SY5Y, MJS, KOP, fibroblasts, primary rat neurons, primary keratinocytes)

Work experience

2019 – present

Institute of Biotechnology and Molecular Medicine
Position Head of the Department of in vitro studies.
Expert in the Biotechnology and virology field.

2020-present

NanoExpo Sp z o. o
Position CEO, Director of Research and Development

2019-present

SkyWayBiolab LTD, Gdansk, Position CEO, Scientific Director

2009-2015

Intercollegiate faculty of Biotechnology, Biotechnology University of Gdansk.
Department of Recombinant Vaccines.
Position Junior specialist, Senior specialist and Group leader

Internships

2014

International Organising Committee: Marin van Heel – Leiden University, The Netherland, Niko Grigorieff – HHMI/Janelia Farm/Brandies University-US, Michael Schatz-Image Science-Berlin-Germany
The six Brazil school for Single Particle Cryo-EM.

2014

Training in i BET, Oeiras, Portugal, Novel Sf9 cell line for stable production of proteins

2014

EMBO workshop, Glycobiology and glycochemistry :Applications to human health and disease

Education

Insect cell culture (Sf9, SfET, Hi5, ExpiSf)

Working with viruses, propagation, infection, titration, viral vectors (BSL-1, BSL-2)

Baculovirus expression system

Transfection, transduction, electroporation

Immunohistochemistry, immunofluorescence

Cell imaging, confocal microscopy, time lapse

Molecular cloning, preparation of mono-, bi- and tri-cistronic expression cassettes

PCR, RT-qPCR

Bioengineering of virus-like particles, analysis of 3D protein structures, support for Chimera, AlphaFold DB

Bioinformatics analyses, ability to use NCBI, RCSB PDB, Uniprot, EMBL-EBI databases,

Proficient in the Geneious Prime bioinformatics program

Expression of recombinant proteins (mammalian cells, insect cells, bacteria, protozoa)

Protein purification (agarose purification, size exclusion chromatography, sucrose/opti-prep gradient)

SDS-PAGE

2023

University of Gdańsk, Phd studies field of natural science, discipline Biotechnology

Place of the doctoral thesis: Department of Molecular Biology of Viruses

Thesis title

“Construction and application of virus-like particles (VLPs) to monitor and prevent certain RNA virus infections”; University of Gdańsk

2004-2008

Ph.D program in collaboration with the Faculty of Chemistry of Gdansk, University of Gdańsk,

Intercollegiate Faculty of Biotechnology UG-MUG;

Virology: Calicivirus biology and Influenza virus.

2003 – 2004

Environmental Doctoral Studies in Biology, Geography and Oceanography, University of Gdańsk,

Intercollegiate Faculty of Biotechnology UG-MUG

Virology: Virus like particles of RHDV

1998-2003

University of Gdańsk, Faculty of Biology, Geography and Oceanology

Biology/ Molecular biology;
M. Sc. Molecular biology

Project management and participation

2023-present

ASTACUS Biopolymer materials with chemically and genetically programmed selectivity to heavy metals for ultrasensitive new generation biosensors (NCBiR TECHMATSTRATEG grant)

Project consultant

The project concerns research and development and pre-implementation works, the result of which will be the creation of an ultra-sensitive and mobile device allowing for simultaneous and quick detection, at least 8 different heavy metals in water using electrochemical measurements and optical.

2023-present

Nano_MESSENGER (R&D project of NanoExpo sp. z o. o.)

Project manager

Research and development project aimed at the construction of nanoparticles for selective encapsulation of therapeutic mRNA

2023-present

NanoExpo catcher (R&D project of NanoExpo sp. z o. o.)

Western blotting

ELISA

Toxicological tests of liquid and solid substances and multicomponent biomaterials

Leadership and office skills

Managing a research team in accordance with the SCRUM method

Support for team communication programs, e.g. Teams, Zoom, WhatsApp, Trello

Administrative support for research projects

Financial support for projects

Scientific writing – preparation of manuscripts, proofreading, conceptualization, grant proposal preparation, Polish-English and English-Polish translations,

Self-planning of experiments

Preparation of written reports, analysis of results

Procurement of laboratory equipment and supplies

Support for the Saldeo accounting software

Proficient in CorelDraw and Photoshop

Prizes and awards

2023

Nomination for the NCBiR evaluation study - the company as a final effect of Lider IV project, which was successful in the light of the goals

Project manager

Research and development project to use Nanoexpo technology as an alternative capture strategy for the development of optical fibers detecting biomarkers of neurodegenerative diseases (Alzheimer's disease)

2022-present

Nano_clear (R&D project of NanoExpo sp. z o. o.)

Project manager

A research and development project aimed at reusing the Nanoexpo technology as an alternative strategy for the development of nanomaterials that capture heavy metals from drinking water.

2022-present

mPro_VLPs (R&D project of NanoExpo sp. z o. o.)

Project manager

A research and development project aimed at developing a technological system for the efficient production of non-enveloped icosahedral virus-like particles in mammalian cells.

2021–2023

"PeptAlm - a platform based on artificial intelligence for studying peptide-protein interactions with virtually generated peptide libraries" (NCBiR Grant)

Member of the consortium and contractor of the project.

The aim of the project is to develop the PeptAlm product - a unique, artificial intelligence-based, web-based bioinformatics platform supporting the design and development of molecular diagnostic tests. PeptAlm will enable users to select appropriate peptide-ligands with the highest affinity and spatial fit to the target protein-receptor.

The PeptAlm platform will help develop new molecular diagnostic tests for emerging or known diseases such as COVID-19. The heart of the PeptAlm platform is an innovative, experimentally validated algorithm, supported by advanced machine learning (ML) and artificial intelligence (AI) methods.

2020-present

HPVaid (R&D Project NanoExpo sp. z o. o.)

Project manager

The project aims to develop a universal anti-HPV diagnostic platform for advanced, innovative diagnostics of all strains of the human papilloma virus. The aim of the project is to develop a rapid antigen test that will allow sexually active people to detect papilloma virus infection.

and programs of NCBIr;

Nomination and Distinction in the Pomeranian start-up category at the Pomorski Gryf Gospodarczy 2023 gala;

Platinum medal for innovation, Multifunctional composite implant material for filling bone defects and regenerating bone tissue, Glasspopep project consortium, XVI INTERNATIONAL FAIR OF INVENTIONS AND INNOVATIONS INTARG® 2023, May 24-25, 2023

Gold medal for innovation, Antibacterial bioglasses for medical applications, Glasspopep project consortium, XVI INTERNATIONAL FAIR OF INVENTIONS AND INNOVATIONS INTARG® 2023, May 24-25, 2023

Gold medal for innovation, Multifunctional elastomeric biocomposite for bone tissue regeneration, Glasspopep project consortium, XVI INTERNATIONAL FAIR OF INVENTIONS AND INNOVATIONS INTARG® 2023, May 24-25, 2023

2022

The Made in Poland 2022 award of the Polish Press Agency awarded to the entire IBMM team for creating an elite biomedical research center, conducting innovative and innovative projects and taking care of their commercial development

2021

Award for the best presentation: Biological Evaluation of Bioglasses with Potential Benefit Effect for Bone Tissue Regeneration Applications, Milena Chraniuk, Mirosława Panasiuk, Piotr Bollin, Lidia Ciolek, Beata Gromadzka, Sabina Zoledowska, Dawid Nidzworski, Monika Biernat, Piotr Szterner, Zbigniew Jaegermann. The presentation was given at the 15th International Conference on Novel Biocomposite Engineering, Bioapplications and Cytotoxicity

2020-present

vaxRHDVdiva (R&D Project NanoExpo sp. z o. o.)

Project contractor

Research and development project aimed at constructing a multivalent recombinant subunit vaccine based on VLP against RHDV and developing the DIVA test.

2020-2023

QuickSEP (NanoExpo Application and Implementation Project)

Project contractor

Application and implementation project aimed at the development and implementation of the QuickSEP product line - gravity columns for the separation of biological and chemical nanostructures.

2020-2023

Quick Virus CT Titer (Application and Implementation Project NanoExpo sp. z o. o.)

Project contractor

Application and implementation project aimed at developing and implementing the Quick Virus CT Titer product line for quick virus titration.

2020-2023

Made for Virology (Application and Implementation Project NanoExpo sp. z o. o.)

Project contractor

Application and implementation project aimed at the development and implementation of the Made for Virology product line used in molecular virology, such as: dedicated buffers for virus inactivation, virus purification and storage of biological samples.

2020-2022

"Research and development work on the development of a MULTISENSOR prototype - an innovative microsensor for differentiating the bacterial or viral etiology of upper respiratory tract infections" (NCBiR grant)

Project contractor

Research on the test for the detection of pathogens causing upper respiratory tract infections, multiplication of human viruses causing upper respiratory tract infections, RT-PCR assays, western blotting and ELISA.

2020-2022

"EquineDx - a rapid test for detecting pathogens in horses" (NCBiR grant)

Project contractor

Research on the test for detecting pathogens in horses, multiplication of equine viruses, RT-PCR assays, western blotting analysis.

in Istanbul, Turkey.

2021

The Polish Product of the Future 2021 Award, awarded to GeneMe Sp. z o. o. and the Institute of Biotechnology and Molecular Medicine by the Polish Agency for Enterprise Development and the National Center for Research and Development

2019

Polish Intelligent Development Award 2019, Award for research teams from the Department of Ceramics and Concrete in Warsaw, University of Gdańsk, Wrocław University of Technology, IBMM and SensDx, collaborating on the project: "Glassopep: Multifunctional composite material with antimicrobial and pro-regenerative properties for bone tissue reconstruction"

2019

Nomination for Polish Intelligent Development of 2019, category **Scientist of the Future** April 2019

2015

I level Rector reward October

2014

Award from the Ministry of Science and Higher Education for the invention „Biosensor for Flu Detection”

2013

Young scientist scholarship – 6th International Symposium on Avian Influenza, St. John’s College, Cambridge, UK, 3/6-04-2006

Gold medal with mention for “Biosensor for Influenza Virus Detection” International Warsaw Invention Show IWIS 2013

2020-2023

"Multifunctional composite material with antimicrobial and pro-regenerative properties for bone tissue reconstruction - Glassopep" (NCBiR TECHMATSTRATEG grant)

Project contractor

Research on a multifunctional biomaterial supporting the bone reconstruction process, research on the cytotoxic, pro-regenerative and anti-inflammatory properties of biocomposites and their components, in vitro and in vivo research.

2017-2020

"NaNoExpo system as an innovative technology for the production of vaccines" (NCBiR Lider VI grant)

Project contractor

Research on new vaccine preparations based on virus like particles (VLP), protein production in the insect cell system, protein purification and analysis.

2009-2015

"Development of vaccine against highly pathogen avian influenza"

Project execution POIG.01.01.02-14-007/08-00 –

co-executor of the project, Project execution, Preparing documents to project, Financial control

Research on new vaccine preparations based on recombinant hemagglutinin and virus like particles (VLP), protein production in the insect cell system, protein purification and analysis.

2010-2013

"Development of biosensor for detection of influenza virus in environmental samples" ; Project execution VENTURES/2010-5/6 –

co-executor of the project, Project execution 2012-2013

Research on new universal biosensor for influenza detection, protein production in the insect cell system, protein purification and analysis

2010-2011

"Glycosylation inhibitors as a new antiviral drugs against different strains of influenza A virus". Project execution KBN nr

0208/P01/2010/70 – IUVENTUS PLUS

co-executor of the project, Project execution

Research on new antivirals for influenza therapy, protein production and VLPs in the insect cell system, VLPs purification and analysis

2002-2005

Foreign Languages

English - fluent, both spoken and written
German language - intermediate level

Additional skills

Driving license. B
Proficient computer skills and knowledge of MS Office

“Construction a recombinant vaccine against viral Rabbit Haemorrhagic Disease”, KBN nr 3PO4B01923
co-executor of the project, Project execution

Research on new vaccine preparations based on virus like particles (VLP), protein production in the insect cell system, protein purification and analysis

Academic achievements

• Publications

2023

Panasiuk, M., Chraniuk, M., Zimmer K., Hovhannisyan, L., Krapchev, V., Peszyńska-Sularz G., Narajczyk, M., Węśławski, J., Konopacka, A., Gromadzka, B.
Characterization of surface exposed structural loops as insertion sites for foreign antigen delivery in Calicivirus-derived VLP platform, *Frontiers of Microbiology*

Janik M., Gabler T., Koba M., Panasiuk M., Dashkevich Y., Łęga T., Dabrowska A., Naskalska A., Żołądowska S., Nidzworski D., Pyrc K., Gromadzka B., Smietana M. .,
Low-volume label-free SARS-CoV-2 detection with the microcavity-based optical fiber sensor, *Scientific Reports*


Biernat, M., Woźniak, A., Chraniuk, M., Panasiuk, M., Tymowicz-Grzyb, P., Pagacz, J., Antosik, A., Ciołek, L., Gromadzka, B., Jaegermann, Z. ., Effect of selected crosslinking and stabilization methods on the properties of porous chitosan composites dedicated for medical applications, *Biomaterials Science*, manuscript in reviews

Ciołek, L., Chraniuk, M., Bollin, P., Biernat, M., Panasiuk, M., Nidzworski, D., Gromadzka, B., Jegermann, Z., Pamuła, E., Bioactive glasses enriched with zinc and strontium: synthesis, characterization, cytocompatibility with osteoblasts and antibacterial properties, *Ceramics International*, manuscript in reviews

2022

Panasiuk M., Zimmer K., Czarnota A., Narajczyk M., Peszyńska-Sularz G., Chraniuk M., Hovhannisyan L., Żołądowska S., Nidzworski D., Żaczek AJ, Gromadzka B., Chimeric virus-like particles presenting tumour-associated MUC1 epitope result in high titers of specific IgG antibodies in the presence of squalene oil-in-water adjuvant: towards safe cancer immunotherapy, *Journal of Nanobiotechnology*

Chraniuk M., Panasiuk M., Hovhannisyan L., Żołądowska S., Nidzworski D., Ciołek L., Woźniak A., Jaegermann Z., Biernat M., Gromadzka B., Comparison of direct and indirect methods of cytotoxicity evaluation using different chitosan bioglass composites for bone regeneration, *Polymers*



Gromadzka, B.; Chraniuk, M.; Hovhannisyan, L.; Uranowska, K.; Szewczyk, B.; Narajczyk, M.; Panasiuk, M., Characterization of immune response towards generation of universal anti-HA-stalk antibodies after immunization of broiler hens with triple H5N1/NA-HA-M1 VLPs, *Viruses*

Białobrzeska W., Ficek M., Dec B., Osella S., Trzaskowski B., Jaramillo-Botero A., Pierpaoli M., Rycewicz M., Dashkevich Y., Łęga T., Malinowska N., Cebula Z., Bigus D., Firganek D., Bięga E., Dziąbowska K., Brodowski M., Kowalski M., Panasiuk M., Gromadzka B., Żołędowska S., Nidzworski D., Pyrc K., Goddard III WA, Bogdanowicz R., Performance of electrochemical immunoassays for clinical diagnostics of SARS-CoV-2 based on selective nucleocapsid N protein detection: boron-doped diamond, gold and glassy carbon evaluation, *Biosensors and Bioelectronics*

Chraniuk M., Panasiuk M., Hovhannisyan L., Żołędowska S., Nidzworski D., Ciołek L., Woźniak A., Kubiś A., Karska N., Jaegermann Z., Rodziewicz-Motowidło S., Biernat M., Gromadzka B., Assessment of the toxicity of biocompatible materials supporting bone regeneration; Impact of the type of assay and used controls, *Toxics*

Lesiak D., Graul M., Brzozowska A., Panasiuk M., Bieńkowska-Szewczyk K., Lipińska AD, Modulation of major histocompatibility class I expression by the US3 protein of bovine herpesvirus 1, ready manuscript in reviews

2021

Panasiuk M., Zimmer K., Czarnota A., Grzyb K., Narajczyk M., Peszyńska-Sularz G., Żołędowska S., Nidzworski D., Hovhannisyan L., Gromadzka B., Immunization with *Leishmania tarentolae*-derived norovirus VLPs elicits high humoral response and stimulates the production of neutralizing antibodies, *Microbial Cell Factories*

Ciołek L., Biernat M., Szterner P., Tymowicz-Grzyb P., Pagacz J., Chraniuk M., Bollin P., Gromadzka B., Panasiuk M., Nidzworski D., Jegermann Z., In Vitro Biological Activity of Zinc-Doped Bioglass for Multifunctional Chitosan Composites, *Engineering of Biomaterials / Inżynieria Biomateriałów, Special Issue 163/2021*

2020

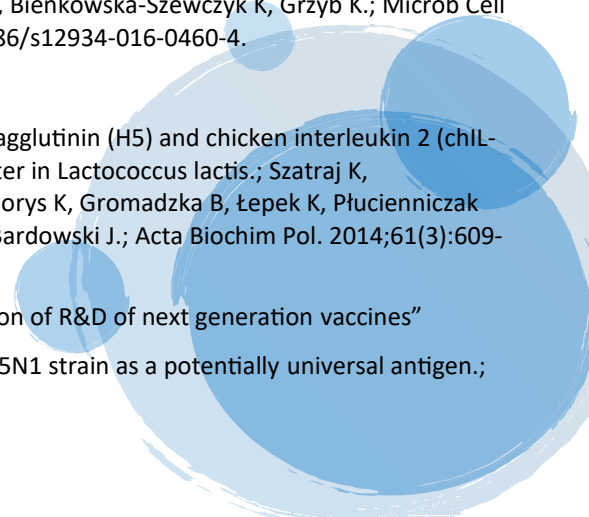
Janczuk-Richter M., Gromadzka B., Panasiuk M., Zimmer K., Mikulic P., Bock WJ, Maćkowski S., Śmietana M., Niedziółka Jönssona J., Immunosensor Based on Long-Period Fiber Gratings for Detection of Viruses Causing Gastroenteritis, *Sensors*


Rest

Immunogenicity of *Leishmania*-derived hepatitis B small surface antigen particles exposing highly conserved E2 epitope of hepatitis C virus. Czarnota A, Tyborowska J, Peszyńska-Sularz G, Gromadzka B, Bieńkowska-Szewczyk K, Grzyb K.; *Microb Cell Fact.* 2016 Apr 13;15:62. doi: 10.1186/s12934-016-0460-4.

Expression of avian influenza haemagglutinin (H5) and chicken interleukin 2 (chIL-2) under control of the *ptcB* promoter in *Lactococcus lactis*.; Sztraj K, Szczepankowska AK, Sączyńska V, Florys K, Gromadzka B, Łeppek K, Plucienniczak G, Szewczyk B, Zagórski-Ostojka W, Bardowski J.; *Acta Biochim Pol.* 2014;61(3):609-14.

GOVERNMENT EXPERTISE "Evaluation of R&D of next generation vaccines"
Hemagglutinin stalk domain from H5N1 strain as a potentially universal antigen.;





Uranowska K, Tyborowska J, Jurek A, Szewczyk B, Gromadzka B.; Acta Biochim Pol. 2014;61(3):541-50.

Universal biosensor for detection of influenza virus.; Nidzworski D, Pranszke P, Grudniewska M, Król E, Gromadzka B.; Biosens Bioelectron. 2014 Sep 15;59:239-42. doi: 10.1016/j.bios.2014.03.050

Anti-influenza A virus activity of uridine derivatives of 2-deoxy sugars.; Krol E, Wandzik I, Gromadzka B, Nidzworski D, Rychlowska M, Matlach M, Tyborowska J, Szewczyk B.; Antiviral Res. 2013 Oct;100(1):90-7. doi:10.1016/j.antiviral.2013.07.014

Application of baculovirus-insect cell expression system for human therapy.; Rychlowska M, Gromadzka B, Bieńkowska-Szewczyk K, Szewczyk B.; Curr Pharm Biotechnol. 2011 Nov;12(11):1840-9. Review

Detection and differentiation of virulent and avirulent strains of Newcastle disease virus by real-time PCR.; Nidzworski D, Rabalski L, Gromadzka B.; J Virol Methods. 2011 Apr;173(1):144-9. doi: 10.1016/j.jviromet.2010.12.015

Detection of changes in avian influenza genome fragments by multitemperature single-strand conformational polymorphism. Gromadzka B, Smietanka K, Dragun J, Minta Z, Gora-Sochacka A, Szewczyk B.; Mol Cell Probes. 2008 Oct-Dec;22(5-6):301-4. doi:10.1016/j.mcp.2008.09.003

Recombinant VP60 in the form of virion-like particles as a potential vaccine against rabbit hemorrhagic disease virus. Gromadzka B, Szewczyk B, Konopa G, Fitzner A, Keszy A.; Acta Biochim Pol. 2006;53(2):371-6.

• Conference reports


2023


Sawicka J., Bolin P., **Panasiuk M.**, Gazińska M., Biernat M., Rodziewicz-Motowidło S., Czy fibryle peptydowe mogą wspomagać odbudowę kości?, 5th National Scientific Conference IMPLANTY2023 Technologies, chemistry and medicine, 2023, Gdansk, Poland

Biernat M., Woźniak A., Ciołek L., Kubiś A., Karska N., Sawicka J., Rodziewicz-Motowidło S., Bolin P., Hovhannisyan L., Chraniuk M., **Panasiuk M.**, Gromadzka B., Jaegermann Z., Wielofunkcyjność materiału podstawą do otrzymania implantu doskonałego, 5th National Scientific Conference IMPLANTY2023 Technologies, chemistry and medicine, 2023, Gdansk, Poland

Ciołek L., Chraniuk M., Bolin P., Biernat M., **Panasiuk M.**, Gromadzka B., Jaegermann Z., Bioszklą o działaniu bakteriobójczym jako składnik biokompozytów, 5th National Scientific Conference IMPLANTY2023 Technologies, chemistry and medicine, 2023, Gdansk, Poland

Woźniak A., Biernat M., Ciołek L., Kubiś A., Karska N., Sawicka J., Hovhannisyan L., Chraniuk M., **Panasiuk M.**, Gromadzka B., Rodziewicz-Motowidło S., Jaegermann Z., Metody formowania wielofunkcyjnych materiałów kompozytowych z udziałem aktywnych biologicznie peptydów, 5th National Scientific Conference IMPLANTY2023 Technologies, chemistry and medicine, 2023, Gdansk, Poland





Panasiuk, M.,Chraniuk, M., Bollin, P., Hovhannisyan, L., Kubiś, A., Karska, N., Ciolek, L., Woźniak, A., Jaegermann, Z., Biernat, M., Rodziewicz-Motowidło, S., Gromadzka, B., The ug46 peptide with pro-regenerative and anti-inflammatory properties as an addition to porous biocomposites based on chitosan and bioglass to improve bone regeneration, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Gromadzka, B., Chraniuk, M., Panasiuk, M., Bollin, P., Hovhannisyan, L., Kubiś, A., Karska, N., Biernat, M., Rodziewicz-Motowidło, S., Jaegermann, Z., Innovative solutions in the field of biomaterials used in bone regeneration and wound healing processes, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Chraniuk, M., Panasiuk, M., Hovhannisyan, L., Ciołek, L., Woźniak, A., Biernat, M., Gromadzka, B., Comparison of direct and indirect methods for assessing the toxicity of chitosan-bioglass composites supporting bone regeneration, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Hovhannisyan, L., Biernat, M., Chraniuk, M., Panasiuk, M., Żołędowska, S., Nidzworski, D., Ciołek, L., Woźniak, A., Jaegermann, Z., Gromadzka, B., Biocomposite cross-linking methods and their impact on osteoblast growth, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Bollin, P., Chraniuk, M., Panasiuk, M., Hovhannisyan, L., Gromadzka, B., Ciolek, L., Woźniak, A., Sawicka, J., Jaegermann, Z., Biernat, M., Rodziewicz-Motowidło, S., Methods of analyzing the antibacterial properties of bioglasses and the composite, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Ciołek, L., Bollin, P., Chraniuk, M., Biernat, M., Panasiuk, M., Gromadzka, B., Jaegermann, Z., Bioglass as a component of multifunctional composite materials for bone tissue reconstruction, Scientific Conference „ Bone bioimplants - innovative solutions for regenerative medicine”, 2023, Warsaw, Poland


Wozniak, A., Biernat, M., Ciolek, L., Kubiś, A., Karska, N., Sawicka, J., Rodziewicz-Motowidło, S., Hovhannisyan, L., Chraniuk, M., Panasiuk, M., Gromadzka, B., Jaegermann, Z., Methods of introducing biologically active ingredients in the form of peptides into porous chitosan composites, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Kubiś, A., Karska, N., Biernat, M., Woźniak, A., Ciolek, L., Jaegermann, Z., Chraniuk, M., Panasiuk, M., Gromadzka, B., Rodziewicz-Motowidło, S., Synthesis and physicochemical analysis of chitosan-peptide conjugate and characterization of peptides with regenerative potential, Scientific Conference "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Sawicka, J., Bollin, P., Panasiuk, M., Chraniuk, M., Gromadzka, B., Rodziewicz-Motowidło, S., Peptides with antibacterial properties UG36/39 and UG46 - physicochemical and structural characteristics, Scientific Conference , "Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

Biernat, M., Wozniak, A., Ciolek, L., Kubiś, A., Karska, N., Sawicka, J., Rodziewicz-Motowidło, S., Bollin, P., Hovhannisyan, L., Chraniuk, M., Panasiuk, M., Gromadzka, B., Jaegermann, Z., Multifunctional chitosan composites for the reconstruction of bone tissue with antimicrobial activity, Scientific Conference





"Bone bioimplants - innovative solutions for regenerative medicine", 2023, Warsaw, Poland

2022

Kubiś A., Karska N., Woźniak A., Ciołek L., Kasprzykowski F., Chraniuk M., Panasiuk M., Gromadzka B., Jaegermann Z., Biernat M., Rodziewicz-Motowidło S., Design, synthesis and coupling biologically active peptides with chitosan - obtaining biomaterial for bone reconstruction, IV National Scientific Conference "Engineering, medicine, and science - in pursuit of the perfect implant" (IMPLANTY 2022), 2022, Gdańsk, Poland

Kubiś A., Karska N., Woźniak A., Ciołek L., Biernat M., Kasprzykowski F., Chraniuk M., Panasiuk M., Gromadzka B., Rodziewicz-Motowidło S., Proregenerative peptides as part of a composites for bone reconstruction, 17th Naples Workshop on Bioactive Peptides "Emerging peptide science in 2022", 2022, Naples, Italy

Kubiś A., Karska N., Woźniak A., Ciołek L., Kasprzykowski F., Chraniuk M., Panasiuk M., Gromadzka B., Jaegermann Z., Biernat M., Rodziewicz-Motowidło S., Synthesis and analysis of chitosan composites with pro-regenerative properties. NanoTech Poland, 2022, Poznań, Poland

2021

Chraniuk M., Panasiuk M., Bollin P., Ciołek L., Gromadzka B., Żołądowska S., Nidzworski D., Biernat M., Szterner P., Jaegermann Z., Biological Evaluation of Bioglasses with Potential Benefit Effect for Bone Tissue Regeneration Applications, ICNBEBAC001 2021: XV. International Conference on Novel Biocomposite Engineering, Bio-Applications and Cytotoxicity, presentation - awarded for the best presentation

Kubiś A., Karska N., Wozniak A., Ciolek L., Biernat M., Kasprzykowski F., Chraniuk M., Panasiuk M., Gromadzka B., Rodziewicz-Motowidło S., Synthesis and analysis of chitosan composites with regenerative properties, XXV Scientific Conference "Polymer Modification" (MODPOL 2021), 2021, 06-09-2021 - 09-09-2021, Szklarska Poręba, Poland

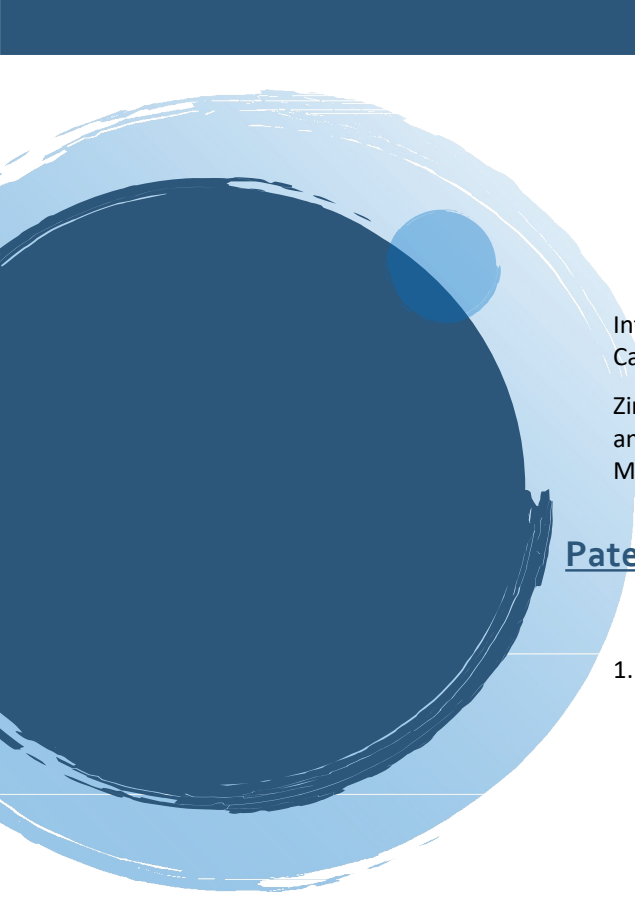
Ciołek L., Biernat M., Szterner P., Tymowicz-Grzyb P., Pagacz J., Chraniuk M., Bollin P., Gromadzka B., Panasiuk M., Nidzworski D., Jegermann Z., In Vitro Biological Activity of Zinc-Doped Bioglass for Multifunctional Chitosan Composites, 30th Conference "Biomaterials in Medicine and Veterinary Medicine", 14-17 October 2021, Rytro, Poland

Panasiuk M., Chraniuk M., Bollin P., Ciołek L., Gromadzka B., Żołądowska S., Nidzworski D., Biernat M., Szterner P., Jaegermann Z., Influence of zinc oxide enriched bioglass on proregenerative properties of chitosan based biocomposites for bone tissue regeneration, 7th International Conference and Expo on Ceramics and Composite Materials 2021 Webinar, Innovations and Advancements in Ceramics and Composite Materials Research - poster

2019

Panasiuk M., Rychłowski M., Bieńkowska - Szweczyk K., The cell-specific role of viral kinase in the formation of tunneling nanotubes and in cell-to-cell spread of an alpha-herpesvirus, ASCB|EMBO 2019 Meeting, Washington DC, USA - poster

Janczuk-Richter M., Gromadzka B., Panasiuk M., Zimmer K., Mikulic P., Bock WJ, Maćkowski S., Śmietana M., Niedziółka Jönssona J., Label-free detection of norovirus virus-like particles using long period fiber grating biosensor, 12th

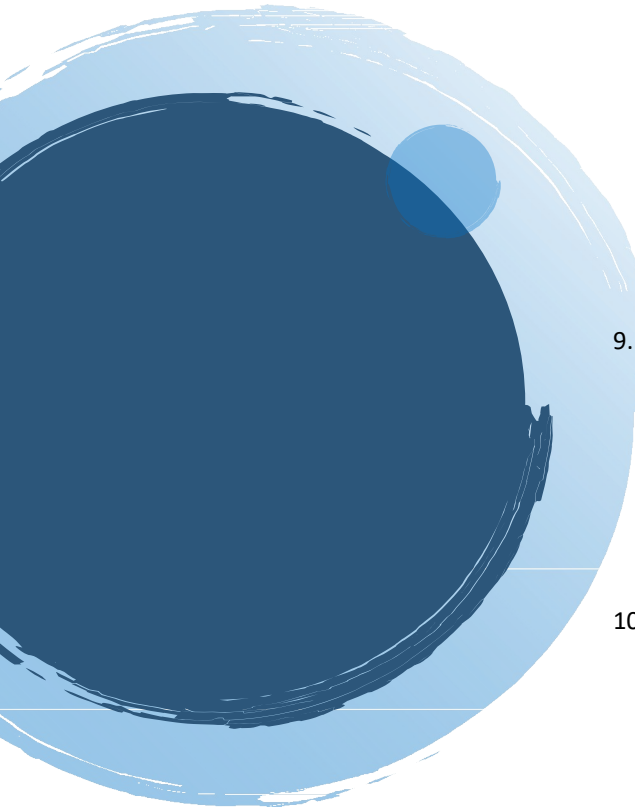


International Conference & Exhibition on Biosensors & Bioelectronics, Vancouver, Canada - poster

Zimmer K., Panasiuk M., Gromadzka B., Impact of the localization of foreign antigen in different loops in Norovirus VLPs platform, Global Summit on Microbiology and Virology, Prague, Czech Republic - poster


Patents and patent applications

1. "Multifunctional composites with antimicrobial and anti-inflammatory properties for filling bone defects and regenerating bone tissue and the method of obtaining multifunctional composites with antimicrobial and anti-inflammatory properties for filling bone defects and regenerating bone tissue", Monika Biernat, Lidia Ciołek, Anna Woźniak, Zbigniew Jaegermann, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-Motowidło, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, application number: P.442880, date of application: November 18, 2022.
2. „Sposób otrzymywania i wykorzystania białka eGFP wiążącego jony chromu”Zgłoszenie oznaczono numerem:P.443378, data zgłoszenia: 23.05.2023 r.
- 3.
4. „7 aminokwasowe sekwencje oraz klony fagowe wiążące selektywnie jony niklu.”Zgłoszenie oznaczono numerem:P.443378, data zgłoszenia: 31.12.2022 r.
5. "Multifunctional chitosan composite for filling bone defects and regenerating bone tissue and the method of obtaining a multifunctional chitosan composite for filling bone defects and regenerating bone tissue", Monika Biernat, Lidia Ciołek, Anna Woźniak, Zbigniew Jaegermann, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-Motowidło, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, application number: P.442878, application date: November 18, 2022.
6. "Multifunctional composites with a pro-regenerative effect for filling bone defects and regenerating bone tissue and a method of obtaining multifunctional composites with a pro-regenerative effect for filling bone defects and regenerating bone tissue", Monika Biernat, Lidia Ciołek, Anna Woźniak, Zbigniew Jaegermann, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-Motowidło, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, application number: P.442881, date of application: November 18, 2022.
7. "Multifunctional chitosan composites with antimicrobial activity for filling bone defects and regenerating bone tissue and the method of obtaining multifunctional chitosan composites with antimicrobial activity for filling bone defects and regenerating bone tissue", Monika Biernat, Lidia Ciołek, Anna Woźniak, Zbigniew Jaegermann, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-Motowidło, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, application number: P.442879, date of application: November 18, 2022.
8. "Multifunctional composites with antimicrobial and anti-inflammatory properties for filling bone defects and regenerating bone tissue and the method of obtaining multifunctional composites with antimicrobial and anti-inflammatory properties for filling bone defects and regenerating bone tissue", Monika Biernat, Lidia Ciołek, Anna Woźniak, Zbigniew Jaegermann, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-



Motowidło, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, application number: P.442880, date of application: November 18, 2022.

9. "Polymer-ceramic biocomposites containing a peptide with anti-inflammatory properties for filling bone defects and regenerating bone tissue, and the method of obtaining biocomposites", Małgorzata Gazińska, Anna Krokos, Ewelina Ortyl, Michał Grzymajło, Konrad Szustakiewicz, Magdalena Kobielarz, Katarzyna Chyży, Agnieszka Kubiś, Natalia Karska, Justyna Sawicka, Sylwia Rodziewicz-Motowidło, Lidia Ciołek, Monika Biernat, Piotr Szterner, Anna Woźniak, Zbigniew Jaegermann, Milena Chraniuk, Beata Gromadzka, Mirosława Panasiuk, Piotr Bollin, submission number: P.442876, submission date: November 18, 2022.
10. "Nucleotide sequences encoding amino acid sequences of a recombinant biological nanostructure and platforms for introducing and displaying foreign antigens, amino acid sequences of a recombinant biological nanostructure and platforms containing restriction sites for introducing and displaying foreign antigens, primers for introducing antigens into restriction sequences, and the use of amino acid sequences for displaying foreign antigens, especially as an immunogen inducing a humoral response, in the production of antibodies and reference antigens in diagnostics"; Creators: Mirosława Panasiuk, Karolina Zimmer, Beata Gromadzka, Patent application no. P.432182
11. "Biological nanostructures based on the Orsay virus for the introduction and exposure of foreign antigens, biological platforms for the exposure of foreign antigens containing nanostructures, primers for introducing antigens into the platforms and the use of nanostructures and platforms for the exposure of foreign antigens in the production of antibodies, reference antigens and/or new generation therapeutics including as vaccines and carriers for the production of drugs"; Creators: Beata Gromadzka, Mirosława Panasiuk, Karolina Zimmer, Weronika Hoffmann, Stanisław Ołdziej, Patent application CTT 20/2019/CTT/Z
12. "Nucleotide sequences encoding the amino acid sequences of the recombinant biological nanostructure and platforms for the introduction and exposure of foreign antigens, the amino acid sequences of the recombinant biological nanostructure and platforms containing restriction sites for the introduction and exposure of foreign antigens, primers for introducing antigens into the restriction sequences, and the use of amino acid sequences for the exposure of foreign antigens, especially as a humoral response inducing immunogen, in the production of antibodies and reference antigens in diagnostics"; Inventors: Beata Gromadzka, Mirosława Panasiuk, Karolina Zimmer, PCT no.: PCT/PL2019/050078
13. *Zestaw diagnostyczny do badania surowic zwierząt na obecność przeciwciał RHD oraz zestaw diagnostyczny do wykrywania wirusa RHD*. Patent (UP RP) nr 205228 przyznany 2009-09-18 (zgłoszenie patentowe nr 376121 z dnia 2005-07-08). Twórcy: Fitzner Andrzej, Kęsy Andrzej, Szewczyk Bogusław, **Gromadzka Beata**. Zgłaszający: Państwowy Instytut Weterynaryjny - Państwowy Instytut Badawczy (Puławy), Uniwersytet Gdański.
14. *Sposób wytwarzania rekombinowanej szczepionki przeciwko krwotocznej chorobie królików, szczepionka oraz zastosowanie antygenu rekombinowanego białka do wytwarzania szczepionki*. Patent (UP RP) nr 205229 przyznany 2009-09-18 (zgłoszenie patentowe nr 376122 z dnia 2005-07-08). Twórcy: Fitzner Andrzej, Kęsy Andrzej, Szewczyk Bogusław, **Gromadzka Beata**. Zgłaszający: Państwowy Instytut Weterynaryjny - Państwowy Instytut Badawczy (Puławy), Uniwersytet Gdański.

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15. *A method of fabrication of an immunosensor and its use for detection of influenza virus.* Zgłoszenie patentowe nr PCT/PL2013/000092 z dnia 2013-07-15. Twórcy: Nidzworski Dawid, Radecki Jerzy, Radecka Hanna, Jarocka Urszula, Szewczyk Bogusław, **Gromadzka Beata**. Zgłaszający: Uniwersytet Gdański, Pro Science Polska Sp. z o. o.
 16. *DNA vaccine, method of inducing the immune response, method of immunisation, antibodies specifically recognising the h5 haemagglutinin of an influenza virus and use of the dna vaccine.* Zgłoszenie patentowe nr PCT/PL2012/000095 z dnia 2012-09-21. Twórcy: Sirko Agnieszka, Góra-Sochacka Anna, Zagórski-Ostoja Włodzimierz, Stachyra Anna, Sawicka Róża, Szewczyk Bogusław, **Gromadzka Beata**, Sączyńska Violetta, Florys Katarzyna, Minta Zenon, Śmietanka Krzysztof. Zgłaszający: Instytut Biochemii i Biofizyki PAN (Warszawa).
 17. *Sposób przygotowania immunoczuJNIka oraz jego zastosowanie do wykrywania wirusa grypy.* Zgłoszenie patentowe (UP RP) nr 399993 z dnia 2012-07-16. Twórcy: Nidzworski Dawid, **Gromadzka Beata**, Radecki Jerzy, Radecka Hanna, Urszula Jarocka, Szewczyk Bogusław. Zgłaszający: Uniwersytet Gdański, Instytut Rozrodu Zwierząt i Badań Żywności PAN (Olsztyn), Pro Science Polska Sp. z o.o. (Gdynia).
 18. *Synthetic genes encoding peptide fragments of natural myelin proteins for induction of oral tolerance, DNA fragment comprising these genes, means of obtaining these peptides in a microbial (bacterial) system and their medical application.* Application num. Zgłoszenie patentowe nr PCT/EP 2012/050097 z dnia 2012-01-04. Twórcy: Szczepankowska Agnieszka, Szatraj Katarzyna, Bardowski Jacek, Aleksandrak-Piekarczyk Tamara, Zagórski-Ostoja Włodzimierz, Borowicz Piotr, Góra-Sochacka Anna, **Gromadzka Beata**, Szewczyk Bogusław, Plucienniczak Grażyna, Minta Zenon, Kapusta Józef, Florys Katarzyna, Kucharczyk Krzysztof, Smietanka Krzysztof, Sirko Agnieszka, Sączyńska Violetta. Zgłaszający: Instytut Biochemii i Biofizyki PAN (Warszawa).
 19. *Szczepionka DNA, sposób indukowania odpowiedzi immunologicznej, przeciwciała specyficZnie rozpoznające białko hemaglutyniny H5 wirusa grypy i zastosowanie szczepionki DNA.* Zgłoszenie patentowe (UP RP) nr 396415 z dnia 2011-09-23. Twórcy: Sirko Agnieszka, Góra-Sochacka Anna, Zagórski-Ostoja Włodzimierz, Stachyra Anna, Sawicka Róża, Szewczyk Bogusław, **Gromadzka Beata**, Sączyńska Violetta, Florys Katarzyna, Bednarczyk Marek, Łakota Paweł, Minta Zenon, Śmietanka Krzysztof. Zgłaszający: Instytut Biochemii i Biofizyki, Polska Akademia Nauk (Warszawa).
 20. *Gen kodujący białko heterologiczne hemaglutyniny wirusa grypy ptaków, gen kodujący białko heterologiczne interleukiny kurzej drugiej (chIL-2), sposób otrzymywania tych genów, szczep bakterii mlekowych zawierający ten gen/geny, jego zastosowanie, kompozyc.* Zgłoszenie patentowe (UP RP) nr 391994 z dnia 2010-07-29. Twórcy: Szczepankowska Agnieszka, Szatraj Katarzyna, Bardowski Jacek, Aleksandrak-Piekarczyk Tamara, Zagórski-Ostoja Włodzimierz, Góra-Sochacka Anna, Sirko Agnieszka, **Gromadzka Beata**, Szewczyk Bogusław, Borowicz Piotr, Plucienniczak Grażyna, Kapusta Józef, Florys Katarzyna, Sączyńska Violetta, Kucharczyk Krzysztof, Minta Zenon, Śmietanka Krzysztof. Zgłaszający: Instytut Biochemii i Biofizyki PAN (Warszawa).



Comercialisation and Implementation

2024

Peptaim – comercialisation and product development

2020-2023

Establishment of E-shop on the web page.

Made for Virology (Application and Implementation Project NanoExpo sp. z o. o.)

2020

Trade Mark for the spin-off company - NaNoExpo® - no. 018239287- 13/05/2020
EUIPO

2020

Quick Sep – innovative gravity separation of nanostructures - column for the separation of nanostructures and viral particles – preparation of a logo, brand book, packaging and instructions. Sending the prototype for testing at the Jagiellonian University and IHF PAN.

2020

preparation for the implementation of virus-like particles VLPs (NoV, RHDV, Orsay)

2019

Gravity sec – as an easy method of purifying biological nanostructures; Patent application for Technology Transfer Center no.: CTT; 19/2019/CTT/ From 2019-12-11. Creators: Mirosława Panasiuk, Karolina Zimmer, Weronika Hoffmann, Beata Gromadzka

Courses, training, other

2023

“Agile with Atlassian Jira” course organized by Atlassian University, Coursera

“Fundamentals of Project Planning and Management” course organized by the University of Virginia


2022

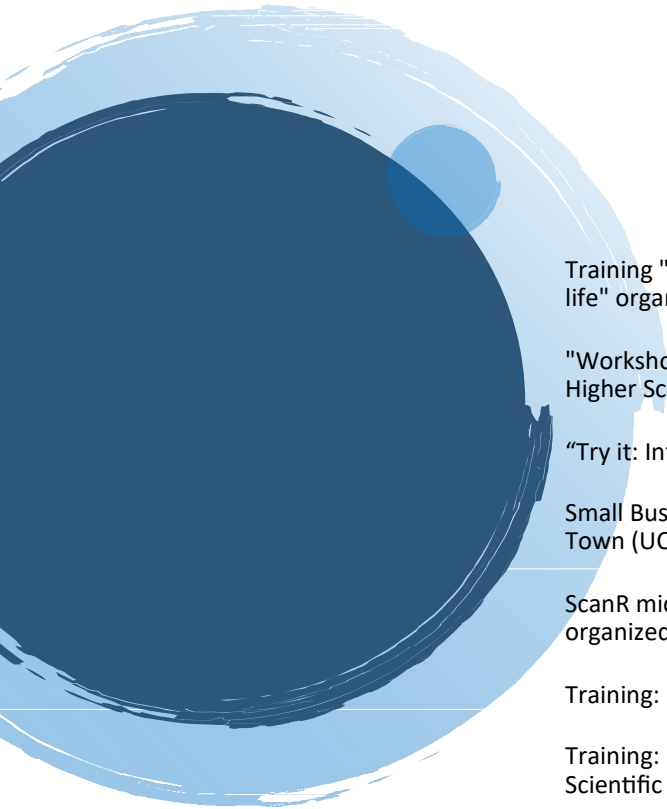
Project management course organized by the Academy of Economics and Humanities in Warsaw, Navoica

Course “Fundamentals of Scrum and Agile - Theory, Practice, Certification” organized by Udemy

The course "Coaching as a tool for releasing creative potential" organizer Universal Higher School of Humanities 'Pomerania', Navoica

Course "What to do when you don't feel like it - about effective ways to motivate yourself and organize your time" organizer Universal Higher School of Humanities 'Pomerania', Navoica





Training "Work Life Balance, or how to maintain a balance between work and personal life" organized by the Academy of Finance and Business Vistula, Navoica

"Workshops for creative stress management" training organized by the Universal Higher School of Humanities 'Pomerania', Navoica

"Try it: Intro to python" course organized by edX

Small Business: Growth and Management course organized by The University of Cape Town (UCT)

ScanR microscope training "scanR: High-Content Screening Station for Life Science" organized by Olympus

Training: "Optimization of Western Blotting" organized by Merck

Training: "Cancer Spheroid and Organoid eLearning Course" organized by Thermo Scientific

2021

Zetasizer Ultra (Malvern Panalytical) training organized by AP Instruments

Training: "How to optimize your shake flask and bioreactor cultures" organized by Eppendorf

Training: "Millicell® inserts for cell culture - application and sample applications" organized by Merck

Training: "Accurate and fast cell counting and determination of their size - Scepter counter" organized by Merck

Training: "Use of innovative cytometric methods in multiparametric analysis of cells" organized by Merck

Training: "Authentication of cell lines. The ECACC Cell Collection as a Reliable Source of Research Material" organized by Merck

Training: "Cell cultures in 3D" organized by Merck

Training: "Standards, Reference Materials and Certified Reference Materials - Definitions, Characterization and Certification Methods" organized by Merck

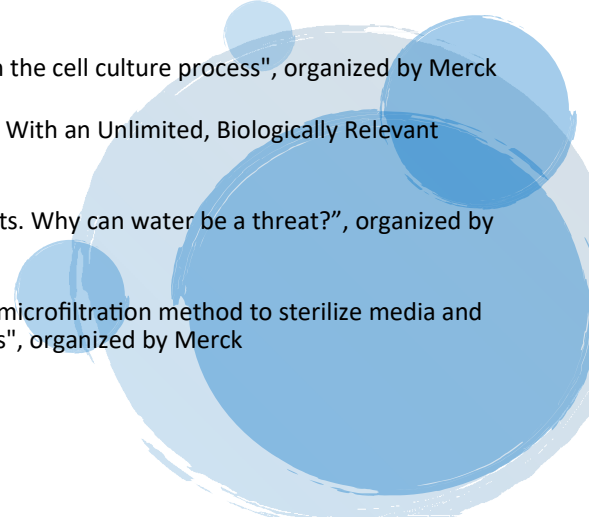
Training: "Water quality in cell cultures. Why can water be a threat?" organized by Merck

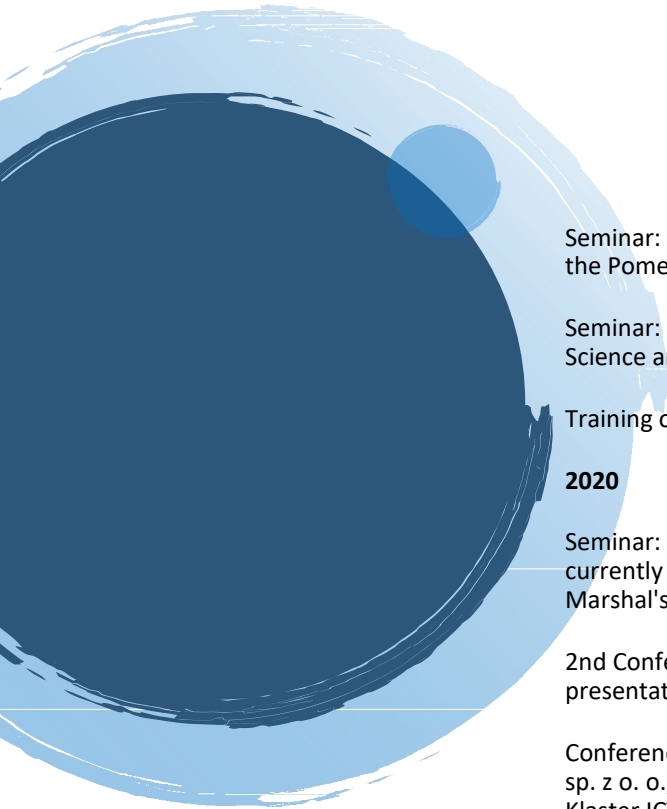
Training: "Selection of the right serum in the cell culture process", organized by Merck

Seminar: Expand Your Cell-based Assays With an Unlimited, Biologically Relevant Resource LGC, organized by ATCC

Training: "Water quality in analytical tests. Why can water be a threat?", organized by Merck

Training: "Practical aspects of using the microfiltration method to sterilize media and supplements as well as biological buffers", organized by Merck





Seminar: Problem solving and innovative thinking, organized by the Marshal's Office of the Pomeranian Voivodeship

Seminar: Getting ready for In Vitro Diagnostic Regulation (IVDR), organized by Select Science and Biosearch Technologies

Training on the use of the GloMax Discovery device, organized by Promega

2020

Seminar: A comprehensive support system for R&D investments - an overview of currently available opportunities in the Pomeranian Voivodeship, organized by the Marshal's Office of the Pomeranian Voivodeship

2nd Conference of Consortium members for the "Glassopep" project – oral presentation of the project results

Conference: BioTech Daily 2020, organized by the Pomeranian Special Economic Zone sp. z o. o., Gdańsk Science and Technology Park and partners Interizon Pomorski Klaster ICT, MEDmeetsTech

Seminar: Lyophilization-Changing the Game for Molecular Diagnostics, organized by LabRoots Your Science Network

Conference: Science Against SARS-CoV-2 Conference, organized by Thermo Fisher Scientific

Training: Online Info day Small Grant Scheme, organized by the National Center for Research and Development

Seminar: Ask the Experts: Practical Guidance for Designing Successful Targeted Protein Degradation Assays, hosted by Promega

GPW Innovation Day 4th edition conference, organized by the Warsaw Stock Exchange

1st Conference of Consortium members for the "Glassopep" project – oral presentation of the project results

Seminar: Discover cell shapes - How to monitor and quantify cell morphology, organized by Phase Holographic Imaging

Seminar: From cell seeding to analysis – Getting the best out of your cell-based assay, organized by Promega and Eppendorf

Seminar: HaloTag® Technology – A Single Fusion Tag for Cellular Imaging and Protein Analysis, organized by Promega

2019

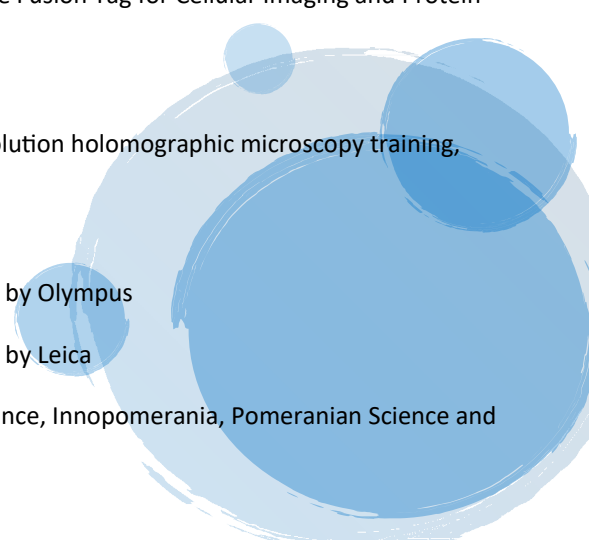
Nanolive 3D Cell Explorer-Fluo high-resolution holomographic microscopy training, organized by Labnatek

2018

Confocal microscopy training, organized by Olympus

Confocal microscopy training, organized by Leica

Professional development training - Science, Innopomerania, Pomeranian Science and





Technology Park, Gdynia

2015

Pre-medical first aid course, First Aid first aid training, Gdańsk

2014

Seminar on BD Accuri C6 flow cytometry, organized by BD, Gdańsk

Course "Writing in the Sciences", Stanford school of medicine, Stanford University, UK

Seminar: Technical Webinar - A Fusion Tag for Complete Protein Characterization, hosted by Promega

Organization of the 12th Baltic Science Festival

Seminar - Technology Day: Cell Imaging & Analysis, organized by Life Technologies, Gdańsk

"Fame Lab" scientific communication training organized by the Copernicus Science Center, Pomeranian Science and Technology Park, Gdynia

2013

Organization of the 11th Baltic Science Festival

Dynamic Light Scattering DLS for particle size characterization of proteins, polymers and colloidal dispersions

2012

Organization of the 10th Baltic Science Festival

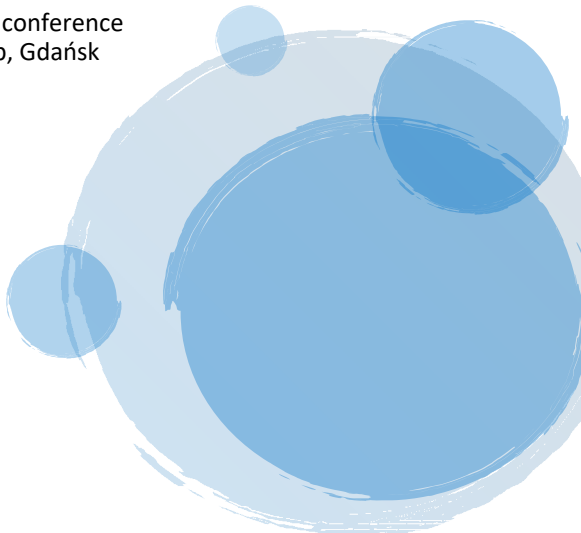
2011-2013

German language course

2011

Training "Professional improvement SCIENCE" as part of the Innopomerania project, Pomeranian Science and Technology Park, Gdynia

Organization of an international virology conference
36th International Herpesvirus Workshop, Gdańsk





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