CURRICULUM VITAE

URSZULA ALICJA FORYŚ

August 2020

1. Education & diplomas

— master degree in applied mathematics, obtained on 26.06.1989, Faculty of Mathematics, Informatics and Mechanics, University of Warsaw;
— PhD in mathematics, obtained on 21.03.1996, Faculty of Mathematics, Informatics and Mechanics, University of Warsaw;
— habilitation in technical sciences in the field of biocybernetics and biomedical engineering, obtained on 1.06.2007, Institute of Biocybernetics and Biomedical Engineering Polish Academy of Science;
— Professor's scientific title in mathematical sciences, awarded on 20.06.2018 by the President of the Republic of Poland.

2. Employment & scientific visits abroad

2.1. Employment:

— 1.10.1989 – 30.09.1990 – trainee assistant at the Institute of Applied Mathematics and Mechanics, University of Warsaw;
— 1.10.1990 – 30.09.1996 – assistant at the Institute of Applied Mathematics and Mechanics, University of Warsaw;
— 1.10.1996 – 30.04.2009 – assistant professor at the Institute of Applied Mathematics and Mechanics, University of Warsaw;
— 1.05.2009 – 30.09.2019 – associated professor at the Institute of Applied Mathematics and Mechanics, University of Warsaw;
— 1.10.2019 – till now – professor at the Institute of Applied Mathematics and Mechanics, University of Warsaw;
— 2011 – 2014 – three years contract for visiting professor at the China University of Geosciences.

2.2. Scientific visits abroad:

— one month stay at the Universitat Autonoma de Barcelona, Spain;
— four short visits (from 1 month to 1 week) in the Institute for Medical Biomathematics, Bene Atharot, Israel;
— two-weeks visit in Dundee, Scotland;
— two stays (1 and 3 months) in China in the framework of 3-year visiting professor position, and another short visit (2 weeks) at the China University of Geosciences, Wuhan;
— two-weeks stay in the Center of Interdisciplinary Research Bielefeld in the framework of the Cooperation Group "Multiscale Modeling of Tumor Initiation, Growth and Progression";
— realization of the project within Bekker program (NAWA) in the Institute for Medical Biomathematics, Bene Atharot, Israel, in the academic year 2019/2020.

3. Research projects

— "Matematyczny model układu immunologicznego" *Mathematical model of an immune system*, No. 2 P301 05206, 1994–1997, role: investigator, in 1996-1997 Principal Investigator.
— "Using Mathematical Modelling and Computer Simulation to Improve Cancer Therapy", No. HPRN-CT-2000-00105, in the framework of the 5th EU Programme, 2000–2003, role: investigator.
— "Modelling, Mathematical Methods and Computer Simulation of Tumour Growth and Therapy", No. MRTN-CT-2004-503661, in the framework of 6th EU Programme, 2004–2008, role: investigator.
— "Od komórki zdrowej do zmutowanej – matematyczny opis dynamiki różnych typów populacji komórkowych" *From healthy to mutated cell – mathematical description of the dynamics of various types of cancer cells populations*, No. 1 P03A 028 30, 2006–2008, role: Principal Investigator.
— Marie Curie European Re-integration Grant (ERG) "Influence of delays on the models of angiogenesis process and immunotherapy of cancer", No. PERG03-GA-2008-230993, in the framework of 7th EU Programme, 01.11.2008-31.10.2011, role: coordinator.
— "Matematyczne podstawy opisów wieloskalowych" *Mathematical base of multiscale description*, No. N N201 362536 (12.05.2009-11.05.2012), role: investigator.
— "Matematyczne modelowanie procesów nowotworowych" *Mathematical models of tumour processes*, No. IP2011 041971 (2012-04-03, 2014-10-02), role: investigator.
— "Badanie wrażliwości w oparciu o wariancję dla układów równań różniczkowych z opóźnionym argumentem" *Analysis of sensitivity in the base of variance for systems of delayed differential equations*, No. 2011/03/N/ST1/00109 (25.09.2012-24.09.2015), role: mentor (PI: Jan Poleszczuk).
— "Modele i metody matematyczne w opisie wzrostu i leczenia nowotworów" *Models and methods in the description of growth and treatment of tumours* No. 2015/19/B/ST1/01163 (2015-2020), role: investigator.
— "Therapy Optimization in Glioblastoma: An Integrative Human Data-Based Approach Using Mathematical Models", James S. Mc. Donnell Foundation, Collaborative Activity Award, role: investigator.
— "Modelowanie matematyczne nabytej lekooporności w leczeniu nowotworów" *Mathematical modeling of a drug resistance in tumor treatment*, No. 2016/23/N/ST1/01178 (2016-2020), role: mentor (PI: M. Bodzioch).
— "Individualized modelling of prostate cancer therapy", No. PPN/BEK/2018/1/00380/U/00001 (30.09.2019-31.07.2020), role: Principal Investigator.

4. International scientific cooperation

— Cooperation with the group of Prof. Zvia Agur, Institute for Medical Biomathematics (Israel) starting from 2004 (modeling of tumor angiogenesis process, immunotherapy of glioma and prostate cancer, androgen deprivation therapy of prostate cancer).
— Cooperation with the group of Prof. Anping Liu from CUG (China) starting from 2011 (ecological models, epidemiological models, eco-epidemiological models).
— Cooperation with the group of Prof. Victor Perez-Garcia (Spain) starting from 2015 (modeling of the growth and therapy of brain tumors).
— Cooperation with Prof. Yaroslav Bigun from University of Chernivci (Ukraine) (modeling of immune reaction).
— Cooperation with Prof. Priti Roy from Kalkota University (India).
— Cooperation Group "Multiscale Modeling of Tumor Initiation, Growth and Progression: From Gene Regulation to Evolutionary Dynamics" in ZiF Bielefeld, November/December 2016.

5. Invited talks on international conferences & schools

— *Immunological and Metabolic Systems. Mathematical Models and Methods of Investigation*, Mądralin, Poland, 18-28.02.91, talk *The mathematical model of immune system with random time of reaction*.
— *2nd Interdisciplinary Workshop "Immune System: Modeling, Simulation and Experiment"*, Leipzig, Germany, 20-21.10.95, talk *Global numerical analysis of Marchuk's model of an immune system*.
— *Mathematical Problems in the Modelling and Control of Tumor-Immune System Interactions*, Oberwolfach, Germany, 21-26.02.99, talk *Asymptotic dynamics of Marchuk's model*.
— *RIP Workshop on Cancer Modelling*, Oberwolfach, Germany, 26.11.12.00, talk *Bifurcations in Marchuk's model*.
— *International Workshop: Reaction-Diffusion Equations and Traveling Waves*, Warsaw, Banach Center, 2000, talk *Forest-pest interaction dynamics*.
— *Workshop Cancer Growth and Progression. Mathematical Problems and Computer Simulations*, Będlewo, Poland, 17-21.06.02, talk *Simple models of tumour growth*.
— *Workshop Differential Equations in Biology and Medicine*, Będlewo, Poland, 29.09-3.10.03, talk *Stability analysis and comparison of the models for carcinogenesis mutations*.
— *2nd Summer School "Modelling, Mathematical Methods and Computer Simulations of Tumor Growth and Therapy"*, Kolymbari, Crete, 15-10.06.06, talk *Delays as a possible mechanism of destabilisation in tumour dynamics*.
— *23rd IFIP TC 7 Conference on System Modelling and Optimization*, Kraków, Poland, 23.07.07, talk *Modelling of angiogenesis process*.
— *Workshop and EMS Summer School in Applied Mathematics: Linear and Nonlinear Wave Propagation. Theory and Applications*, Będlewo, Poland, 21-26.06.09, talk *Description of biochemical reactions with delay*.
— *XXI Congreso de Ecuaciones Diferenciales y Aplicaciones. XI Congreso de Matematica Aplicada*, Ciudad Real, Spain, 21-25.09.09, talk *Model of AIDS-related tumour with time delay* (with M. Bodnar).
— *First International Workshop on Mathematical Methods in Systems Biology*, Tel Aviv, Israel, January 2010, talk *HIV-related tumor–immune system interactions*.
— *2010 International Conference on Computing Control and Industrial Engineering*, May 2010, Wuhan, China, plenary talk *Mathematical modeling of tumor growth: Is it possible to bring some insight into biological knowledge using mathematical and computational tools?* and short talk *Optimal control in cancer treatment*.
— *Summer School and Workshop on "Mathematical Modelling of Cancer Growth and Treatment"*, Dundee, Scotland, 15-28.08.10, series of lectures during summer school.
— *Mathematical Methods in Systems Biology and Population Dynamics, AIMS,* Muizenberg, RPA, 4-7.01.12, talks *Simple models of solid tumour growth: influence of different type of treatment* and *Delayed Gompertz model in the description of tumour growth* (with M.J. Piotrowska).
— *Conference on the 50th Anniversary of Applied Mathematics in Chernivci National University,* 11-14.06.12, Chernivci, Ukraine, plenary talk *Influence of time delays on the dynamics of simple models of tumour growth*.
— *Workshop on Mathematics for Life Sciences*, Kyiv, Ukraine, 3-14.09.12, talk *Generalized idea of Greenspan multicellular spheroid model for tumour growth*.
— *Conference on Dynamical Systems and Applications in honor of Prof. Avner Friedman*, Łódź, Poland, 7.05.13, talk *Two-stage model of carcinogenesis with delays*.
— *Mathematics, Mechanics and Modeling, a tribute to Zbigniew Peradzyński*, Będlewo, Poland, 22-27.09.13, talk *Two-stage Lotka-Volterra model of carcinogenesis with the influence of delays and diffusion*.

— *Micro and Macro Systems in Life Sciences*, 8-13.06.15, Będlewo, Poland, talk *Prostate cancer immunotherapy model*.
— *Nonlocal Aspects in Mathematical Biology*, 26-30.01.16, Będlewo, Poland, talk *Angiogenesis model with Erlang distributed delay*.
— *7th Podlasie Conference in Mathematics*, 8-11.06.2016, Białystok, Poland, plenary talk *Some remarks on the Gottman, Murray et al. model and time delays*.
— *ZiF Workshop "Multiscale Modelling of Tumor Evolution: Data, Validation and Uncertainty"*, 28.11-3.12.16, Bielefeld, Germany, talk *Role of cell competition in acquired chemotherapy resistance*.
— *New horizons in optimal control: A tribute to Helmut Maurer, Urszula Ledzewicz and Heinz Schättler*, 3-5.07.2017, Porto, Portugal, talk *Criss-cross model of tuberculosis for homeless and non-homeless people*.
— *From individual based models to structured population level description*, 12-16.03.2018, Będlewo, Poland, talk *Perceptual decision-making: neuronal population approach*.
— *12th AIMS Conference on Dynamical Systems, Differential Equations and Application*, 4-9.07.2018, Tajpei, Tajwan, talk *Analysis of the criss-cross model of tuberculosis*.
— *Strategia Doskonałości – warsztaty interdyscyplinarne*, 10-13.04.2019, Kraków, Poland, talk *Mathematics meets oncology*.

6. Editorial and review activities

6.1. Editorial:

— Editor of two special issues of *Mathematical Applicanda* in 2018 and 2019, related to the National Conference on Applications of Mathematics in Biology and Medicine.
— 2014–2016 editor of The Scientific World Journal, Hindawi Publishing Corporation.
— Proceedings of the Twenty-First National Conference on Applications of Mathematics in Biology and Medicine, Regietów 22-26 September 2015, edited by: Institute of Applied Mathematics and Mechanics, University of Warsaw, editors: Mariusz Ziółko, Urszula Foryś, Joanna Grzybowska.
— Proceedings of the Twentieth National Conference on Applications of Mathematics in Biology and Medicine, Łochów, 23-27 September 2014, edited by: Institute of Applied Mathematics and Mechanics, University of Warsaw, editors: Marek Bodnar, Urszula Foryś, Monika Joanna Piotrowska.
— Delay Differential Equations in Bio-populations, special issue, journal: Mathematical Population Studies, vol. bf 21, editors: Monika Joanna Piotrowska, Urszula Foryś.
— Proceedings of the Seventeenth National Conference on Applications of Mathematics in Biology and Medicine, Zakopane-Kościelisko, 1-6 September 2011, edited by: Institute of Applied Mathematics and Mechanics, University of Warsaw, editors: Urszula Foryś, Marek Bodnar, Jan Poleszczuk, Monika Joanna Piotrowska.
— Proceedings of the XIV National Conference on Application of Mathematics in Biology and Medicine, Leszno, September 2008, edited by: Wydział Matematyki Informatyki i Mechaniki, Uniwersytet Warszawski, editors: Marek Bodnar, Urszula Foryś.
— Proceedings of the IV National Conference Application of Mathematics in Biology and Medicine, Zwierzyniec, September 1998, edited by: Wydział Matematyki Informatyki i Mechaniki, Uniwersytet Warszawski, editors: Urszula Foryś, Mirosław Lachowicz, Jacek Waniewski.
— Editor of two special issues of "Delta" related to anniversaries of the Institute of Applied Mathematics and Mechanics (University of Warsaw), 2017, and Polish Mathematical Society, 2019.

6.2. Review:

— I reviewed many manuscripts submitted to the following journals:
Acta Biotheoretica, Acta Mathematica Sciencia, Applied Mathematical Modelling, Archives of Control Sciences, Computational and Mathematical Methods in Medicine, Discrete and Continuous Dynamical Systems ser. B, Fundamental Journal of Mathematics and Applications , International Journal of Applied Mathematics and Computer Sciences, International Journal of Biomathematics, Journal of Applied Mathematics, Journal of Biological Physics, Journal of Dynamics and Differential Equations, Journal of Evolution Equations and Control Theory, Journal of Mathematical Analysis and Application, Journal of Theoretical Biology, Mathematical Biosciences, Mathematical Bioscience and Engineering, Mathematical Methods in the Applied Sciences, Nature Scientific Reports, Nonlinear Analysis, Nonlinear Analysis-Real World Applications, Nonlinear Dynamics, Open Systems & Information Dynamics, PLOS Computational Biology, PLOS One, Physics Letters, Annales Polonici Mathematici; Annales Universitatis Paedagogicae Cracoviensis Studia ad Didacticam Mathematicae Pertinentia; Applicationes Mathematicae; Archives of Control Sciences (PAN); Journal of Biological Sciences; Mathematica Applicanda;
— review of the scientific project from Mexico (2003).

7. Organizational and expert activities

7.1. International conferences and workshops

— *Workshop on Mathematical Modelling of Tumour Growth*, Warsaw, Poland, 16.05.07.
— *First common congress of AMS/PTM*, Warsaw, Poland, 31.07-3.08.07, co-organizer of the session (with U. Ledzewicz) “Dynamics, Control and Optimization with Biomedical Application”.
— *Miniworkshop: Recent Trends in Applications of Mathematics to Biology and Medicine V*, Warsaw, Poland, 12.12.07.
— *Workshop Mathematical and Computational Approaches to Biology and Medicine*, Warsaw, Poland, 15-16.06.09.
— *Mathematical Methods in Systems Biology and Population Dynamics, AIMS,* Muizenberg, RPA, 4-7.01.12, member of scientific committee.
— *6th European Congress of Mathematics*, Kraków, Poland, 2-7.07.12, organizer of the thematic session “Delay Equations in Biomedical Applications”.
— *Common Congress of PTM-DMV*, Poznań, Poland, 17-20.09.14, co-organizer (with A. Deutsch) of the session “Mathematical models for biological invasion”.
— *6th Forum of Polish Mathematicians*, Warsaw, Poland, 7-12.09.15, co-organizer of the conference, organizer (with F. Przytycki) of international session “Dynamical system: theory and applications – in memory of Wiesław Szlenk”
— *International Scientific Conference “Differential-Functional Equations and Their Application”*, 28-30.09.16, Chernivci, Ukraine, member of scientific committee.
— *New horizons in optimal control: A tribute to Helmut Maurer, Urszula Ledzewicz and Heinz Schaettler*, 3-5.07.2017, Porto, Portugal, co-organizer (with A. Friedman) of the session on mathematical biology.
— *12th AIMS Conference on Dynamical Systems, Differential Equations and Applications*, Tajpei, Tajwan, 4-9.07.18, co-organizer (with B. Zduniak) of the session “Application of Ordinary Differential Equations in Medicine and Biology”.
— *On the trail of women in mathematics: in honor of Sofia Kowalewska*, Kraków, Poland, 31.08-2.09.19, co-organizer of the conference.

— *Polish-Israeli workshop "From equations to the patientès bedside: role of biomathematics in solving medical problems in real-life"*, Bene Atharot, Israel, 20-24.02.2020, main organizer of the workshop.

7.2. Other organizational activities

— I was a founder member of the European Society for Mathematical and Theoretical Biology.
— I am a member of Polish Mathematical Society: in 2010 I was elected as a member of the Board of Warsaw Branch of PMS (till now), in 2013 I was elected as a member of Authorities of PMS (member of Amicable Tribunal), at present I am a chair of Warsaw Branch of PMS.
— I co-organized (with Paweł Strzelecki as a dean of the Faculty MIMUW) the 100-year anniversary of Warsaw School of Mathematics (2018): mini-conference and exhibition at the UW (which I was the author).
— I prepared two special issues of "Delta":
for the celebration of the 30th anniversary of the Institute of Applied Mathematics and Mechanics, 2017;
for the celebration of the 100th anniversary of the Polish Mathematical Society, 2019.
— I was a founder member of the Polish Women in Mathematics (2.04.2016), I am a vice-president of the society and active organizer of two conferences devoted to woman mathematicians – Helena Rasiowa (2017) and Sofia Kowalewska (2019).
— For several years I was involved in the works of the faculty recruitment commission (as a chairwoman for two years), and I was a main organizer of Central Entrance Exam in Mathematics at the University of Warsaw.
— I was a member of the Electors Council of the University of Warsaw.
— For two years I was a secretary of the faculty Council.
— In 2009-2013 I was a member of the Library Committee at the University of Warsaw.
— I am a chair of the Section of Biomathematics and Game Theory at the Institute of Applied Mathematics and Mechanics, UW (from 2013).
— I was involved in organizing the celebration of the 200th anniversary of the University of Warsaw (in particular, I realized the project "20 mathematicians for 200-years of UW", I co-organized and participated in the project "I am from UW", I organized the series of lectures "What for the mathematics is?" and the mathematical part of scientific picnic "Explore UW: Ochota Campus").

7.3. Expert activities

— Report for one of the largest Polish banks Bank PEKAO S.A. presenting mathematical analysis of the coefficient reflecting competitiveness of the product. We (with W. Niemiro) proposed a new method of evaluation.
— Report for National Forest Research Institute on mathematical modeling of predicting long-term gradation of forests pests. I suggested collecting of more advanced data.
— I was a member of the jury of the competition for the best paper on applied mathematics (3 editions) organized by the Center for Applications of Mathematics, Gdańsk (I reviewed more than 50 pages).
— I took part in the work of the Strategic Seminar Task Group ERCIM.
— I was a member of the jury of "Leader" programme 2017 of the National Centre for Research and Development.

8. Didactic achievements

8.1. Lectures and seminars:

— research seminar "Biomathematics and Game Theory" (seminar of the Section of Biomathematics and Game Theory led by me as a Chair of the Section of Biomathematics and Game Theory);
— seminars: *Biomathematics*, *Mathematics in action*, *Mathematical models in biology and social science*;
— lectures for students of the Faculty of Mathematics, Informatics nad Mechanics, UW:
Mathematical models in biology and medicine (offered in English),
Mathematics of relationships,
Equations with delays in biomedical applications,
Introduction to mathematical modelling in natural sciences,
Delayed equations and asymptotic methods in biomathematics,
Infinite-dimensional continuous dynamical systems in the description of population dynamics,
Mathematical theory of populations and processes with delays;
— lectures for students of other faculties at UW:
Differential and integral calculus,
Mathematics;
— lectures for PhD students of:
Forest Research Institute,
Institute of Computer Science Polish Academy of Sciences (3 courses);
— lecture for students of *Artes Liberales* (UW);
— series of lectures for students of the School of Mathematics and Physics, China University of Geosciences;
— lecture *Dynamical systems in applications* for IMBM (Israel);
— materials for e-learning course "Mathematical modeling of nonlinear biosystems" for PhD students of IPI PAS.

8.2. PhD students and postdocs

— supervisor (together with Prof. M. Wideł) of the thesis "Modelling of cancer cell response with respect to stress induced by therapy", Jan Poleszczuk, defense in 2014 (Silesian Technical University);
— supervisor (together with Prof. M. Wideł) of the thesis "Exploring potential tumour growth modulating mechanisms in cells having different status of TP53 gene", Jan Poleszczuk, defense in 2015 (University of Warsaw) – for his research on mathematical modeling of tumor growth and treatment Jan Poleszczuk got the Award for Young Mathematicians founded by the Polish Mathematical Society;
— supervisor (together with Prof. K. Fujarewicz) of the thesis "In search of a concise mathematical description of signaling pathways in the context of tumor growth", Piotr Bajger (University of Warsaw, before defense);
— supervisor of Marcin Choiński, PhD fellow at the UW, auxiliary supervisor: M. Bodzioch;
— mentor (together with Prof. J. Waniewski) of Petar Zhivkov, the PhD fellow in the framework of the 5th EU Programme;
— mentor (together with M. Lachowicz) of Monika Joanna Piotrowska during her PhD studies in Warsaw (2003-2005), under my mentorship she prepared a part of her PhD thesis defended in Germany;
— mentor of Ting Liu (2008/1009), the PhD fellow (1-year stay) of People Republic of China Government;
— mentor of Emad Attia (2014/2015), the PhD fellow (1-year stay) of Egypt Government;

— mentor of Mariusz Bodzioch (2015/2016), the PhD fellow of Warsaw Center of Mathematics and Computer Science (1 year position);
— mentor of Sudip Samanta (India) – postdoc from ERCIM;
— mentor of Ishtiaq Ali (Pakistan) – postdoc from ERCIM.

8.3. Referee of PhD theses and habilitations:

— "A Wright-Fisher-type model with varying population size and mutations in the form of a point process", Małgorzata Kubalińska, supervisor Adam Bobrowski;
— "Mathematical modeling and simulation of solid tumor growth", Krzysztof Psiuk-Maksymowicz, supervisor Andrzej Świerniak;
— "Deterministic and stochastic models of regulatory pathways related to apoptosis", Krzysztof Puszyński, supervisor Tomasz Lipniacki;
— "Selected methods of sensitivity analysis in the study of models of signaling pathways", Małgorzata Kardyńska, supervisor: Jarosław Śmieja;
— "Application of sensitivity methods for the analysis and estimation of parameters of complex models in biology and medicine", Krzysztof Łakomiec, supervisor Krzysztof Fujarewicz;
— "Numerical method for ε-optimal approximation of tumor growth inhibition using GM-CSF treatment", Anita Krawczyk, supervisor Andrzej Nowakowski;
— habilitation of Dr. Piotr Kowalczyk entitled "Theory and classification of one- and two-parameter Discontinuity Induced Bifurcations of limit cycles in Piecewise-smooth Dynamical Systems".

8.4. Other students

I was a supervisor of 35 bachelor's theses and 21 master's theses. My main master's students:
— Marek Bodnar (1998, my first master student, we have worked together since his M.Sc., at present he is an associate professor at the UW);
— Remigiusz Kowalczyk (2000, he prepared his PhD within the framework of 5. EU Programme in Turin (Italy), after coming back we worked as an assistant professor at the UW);
— Magda Wierzbowska, now Gałach (2001, the results of her M.Sc. was published in the article "Dynamics of the tumor-immune system competition – the effect of time delay", Int. J. Appl. Math. Comput. Sci., 2003, Vol. 13, No. 3, 395–406, which I helped to prepare for publishing and which is one of the most cited articles in the context of tumour-immune interactions with included time delay, I recommended her to research position in IBIB PAS, where she defended her PhD);
— Monika Joanna Piotrowska (2003, since her M.Sc. we have worked together, she is an assistant professor at the UW);
— Jan Poleszczuk (2011, under my supervision he prepared bachelor's thesis, master's thesis and two PhD theses: in biocybernetics and biomedical engineering at the Silesian University of Technology and in mathematics at the UW, for two years he worked at Lee Moffit Cancer Center, Tampa, USA, as a postdoc, he is an assistant professor at IBIB PAS and a director of the Section of Mathematical Oncology at the Maria Skłodowska-Curie National Oncology Center, he got the Award for Young Mathematicians of Polish Mathematical Society and Scientific Award of "Polityka").

Starting from the beginning of my work at the UW I have got a chance to teach many talented students, some of them being now outstanding researchers at our Faculty. Among others I taught (course on *Mathematical Analysis*): Stefan Dziembowski (professor at the UW, specialist in cryptology), Maria Gokieli (now at Interdisciplinary Centre for Mathematical Modelling UW, she is very active in working with talented pupils and in popularising mathematics), Piotr Gwiazda (professor, now at the Institute of Mathematics PAS), Aleksy Schubert (associate professor at the UW, specialist in mathematical logic) and Agnieszka Wiszniewska (now Wiszniewska-Matyszkiel, associate professor at the UW, specialist in mathematical economy and game theory); (course on *Mathematical modelling in natural sciences*): all my M.Sc. students, and moreover Anna Marciniak (now Marciniak-Czochra,

professor in Heidelberg), Zuzanna Szymańska (at present assistant professor at the ICM UW), Iwona Skrzypczak (at present assistant professor at the IM PAS, during her studies I was her mentor in the field of biomathematics, for this research she has got a reword in the competition "Girls of the future. Tracing Maria Skłodowska-Curie" and Scientific Award of "Polityka").

9. Popularising activity

Articles in *Delta* (the journal for young people interested in mathematical and physical sciences) in Polish, obviously:
— U. Foryś, "Modelling of tumor development", **10** 2002;
— U. Foryś, "Role of delays in modelling of natural phenomena", **3** 2004;
— U. Foryś, "Discrete versus continuous models in biomathematics", **10** 2007;
— U. Foryś, P. Matejek, "About an interesting application of the prey-predator model", **8** 2014;
— U. Foryś, "Vaccinate or not vaccinate? That is the question" **4** 2016;
— U. Foryś, "Beginnings of the Warsaw School of Mathematics", special issue related to 100th anniversary of Polish Mathematical Society 2019.

Another activity in this field:
— interview for educational web portal: http://www.archipelagmatematyki.pl/English.aspx;
— interviews for web portal of Polish Press Agency "Science in Poland":
Mathematics in help of biologists and patients;
Mathematicians would help love;
— interview for *Rock-Radio* on mathematical modeling of romantic relationships;
— lecture for young persons awarded in the competition "Mathematics without borders" (June 2015);
— interview for the journal "Zwierciadło" on the Gottman model of martial interactions;
— participation in the Festival of Science (twice);
— participation in the Open Days at the Faculty of MIM UW (twice);
— within the 200th anniversary of the University of Warsaw:
organisation and participation in the project "I am from UW",
realisation of the project "20 mathematicians for 200-years of UW",
organisation of the series of lectures "What for the mathematics is?",
organisation of the mathematical part of scientific picnic "Explore UW: Ochota Campus";
— lecture for pupils within 7th Forum of Polish Mathematicians;
— lectures for pupils within 4th and 5th Days of Mathematics Popularisation at Warsaw University of Technology, Faculty of Mathematics and Information Science;
— organisation and co-preparation of the exhibition in the Senate of the Republic of Poland entitled "About mathematicians and mathematics on centenary of the Polish Mathematical Society";
— podcast on mathematical modelling in epidemiology, related to students competition "Coronavirus Hackathon".

10. Awards

— MSC with honours;
— 4 times I was awarded the Rector of the University of Warsaw Award for scientific and organization activity;
— Award of Deans for the popularizing article in "Delta" (Polish scientific journal for young people);
— "Featured article 2015" for the paper: M.J. Piotrowska, M. Bodnar, U. Foryś, *Tractable model of malignant gliomas immunotherapy with discrete time delays, MPS 21(3), 2014, 127-145*;
— Medal of the 200-year Anniversary of the University of Warsaw (2016).

11. Publications

11.1. Most cited articles in scientific journals:

• U.F., M. Bodnar, Time delays in proliferation process for solid avascular tumour, *Math Comput Model* **37** 2003, 1201–1209;
• U.F., Y. Kheifetz, Y. Kogan, Critical-point analysis for three-variable cancer angiogenesis model, *Math Biosci Eng* **2** (3) 2005, 511–525;
• U.F., M. Bodnar, Time delay in necrotic core formation, *Math. Biosci Eng* **2** (3) 2005, 461–472;
• M.J. Piotrowska, U.F., Analysis of the Hopf bifurcation for the family of angiogenesis models, *J Math Anal Appl* **382** 2011, 180–203;
• Y. Kogan, U.F., *et al.*, Cellular immunotherapy for high grade gliomas: mathematical analysis deriving efficacious infusion rates based on patient require analysis, *SIAM J Appl Math* **70**(6) 2010, 1953–1976;
• U.F., M. Bodnar, Time delays in regulatory apoptosis for solid avascular tumour, *Math Comput Model* **37** 2003, 1211–1220;
• J. Miękisz, J. Poleszczuk, M. Bodnar, U.F., Stochastic models of gene expression with delayed degradation, *B Math Biol* **73**(9) 2011, 2231–2247;
• M. Bodnar, U.F., Three types of simple ODEs describing tumour growth, *J Biol Syst* **15** (4) 2007, 453–471;
• U.F., J. Waniewski, P. Zhivkov, Anti - tumour immunity and tumour anti - immunity in a mathematical model of tumour immunotherapy, *J Biol Syst* **14** (1) 2006, 1–18;
• U.F., Biological delay systems and the Mikhailov criterion of stability, *J Biol Syst* **12** (1) 2004;
• J. Poleszczuk, M. Bodnar, U.F., New approach to modeling of antiangiogenic treatment on the basis of Hahnfeldt et al. model, *Math Biosci Eng* **8**(2) 2011, 591–603;
• M. Bodnar, U.F., J. Poleszczuk, Analysis of biochemical reactions models with delays, *J Math Anal Appl* **376** 2011, 74–83;
• U.F., Stability and bifurcations for the chronic state in Marchuk's model of an immune system, *J Math Anal Appl* **352** 2009, 922–942;
• M.J. Piotrowska, U.F., The nature of Hopf bifurcation for the Gompertz model with delays, *Math Comput Model* **54** 2011, 2183–2198;
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