Dr. Burcu Gürbüz

Curriculum Vitae

Employment

2019–Present	**Postdoctoral Research Associate**, *Institute of Mathematics*, Johannes Gutenberg-University Mainz.
07-08/ 2019	**Visiting Assistant Professor**, *Jean Leray Mathematical Institute*, University of Nantes.
2018–2021	**Assistant Professor**, *Department of Computer Engineering*, Üsküdar University.
2016–2018	**Lecturer**, *Faculty of Engineering*, Ege University.
2014–2015	**Lecturer**, *Faculty of Engineering*, Manisa Celal Bayar University.
2012–2013	**Investigator**, *Department of Mathematics*, University of Minho.

Education

2016–2021	**B.Sc. in Management Information Systems (MIS)**, *Anadolu University*.
2013–2017	**Ph.D. in Applied Mathematics**, *Manisa Celal Bayar University*.
2009–2012	**M.Sc. in Applied Mathematics**, *Muğla Sıtkı Koçman University*.
02-09/ 2011	**M.Sc. Erasmus Student in Mathematics**, *University of Minho*.
2008–2009	**M.Ed. in Mathematics and Science Education**, *Celal Bayar University*.
2004–2008	**B.Sc. in Mathematics**, *Celal Bayar University*.

Dissertations

Ph.D. Thesis

Title	*Numerical Solutions of Partial Functional Integro Differential Equations based on Laguerre Polynomials and Their Applications*
Supervisor	Prof. Dr. Mehmet Sezer

M.Sc. Thesis

Title	*Laguerre Polynomial Solutions of Linear Integro-Differential Difference Equations*
Supervisor	Prof. Dr. Mustafa Gülsu

Research Interests

Dynamical systems, differential equations, qualitative analysis, mathematical biology, numerical methods, programming.

Computer skills

Advanced	MS Office, Maple, MATLAB, LaTeX
Intermediate	PYTHON, C++, Mathematica
Basic	Linux, Microsoft Windows, Pascal, R, Processing

Research Projects

DAAD Foundation

2022-2024	Principal Investigator
Title	*Optimization of alternative transportation routes for foreign trade shipments*

International Mathematics Union (IMU)

07-08/ 2022	Host Researcher
Title	*Dynamics of a mathematical model of COVID-19 incorporating the effect of vaccine*

Funded by Embassy of France

07-08/ 2019	Visiting Research Fellow
Title	*Inverse problems governed by delay differential equations*

Funded by Scientific Research Projects Coordination Unit, Manisa Celal Bayar University

2015–2017	Investigator
Title	*Numerical solutions of partial functional integro differential equations with respect to Laguerre polynomials and its applications*

Funded by Scientific Research Projects Coordination Unit, Manisa Celal Bayar University

2014–2015	Investigator
Title	*Polynomial solutions of a class of nonlinear initial and boundary value problems arising in science and engineering fields*

Funded by Foundation for Science and Technology of Portugal, University of Minho

2012–2013	Investigator
Title	*Numerical simulation of three dimensional polymer flow and application to plastic forming*

Teaching

2019–Present	**Teaching Assistant, Coordinator, Lecturer**, *Ergänzungsvorlesung Math Biology of Cells and Viruses, Further Analysis for the Teaching Profession, Analysis-3, Analysis-2 (German & English)*, Institute of Mathematics, Johannes Gutenberg-University Mainz.
2018–2019	**Assistant Professor**, *Linear Algebra, Differential Equations, Calculus-I, Calculus-II (English), Matematik-2 (Turkish)*, Faculty of Natural Sciences and Engineering, Üsküdar University.

2016–2018   **Lecturer**, *Differential Equations, Mathematics-I, Mathematics-II (English)*, Faculty of Engineering, Ege University.

2014–2015   **Lecturer**, *Lineer Cebir, Diferansiyel Denklemler, Mühendislikte Matematik Uygulamaları (Turkish)*, Faculty of Engineering, Manisa Celal Bayar University.

Supervised Theses

M.Sc. Theses

2022   Hande Poyraz

Title   *Analyzing the Solutions of Fractional Computer Virus Propagation Model by Numerical Methods*

B.Sc. Theses

2023   Şeyma Nur Köçek

Title   *Mathematical Modeling of Infectious Diseases in the Time of COVID-19*

2019   Sena Yıldırım & Çağla Bayrak

Title   *Numerical Solution and Coding of Differential Equations*

2019   Büşra Yılmaz

Title   *Hospital Management Automation*

2019   Melek Kalyoncu & Mehmet Kadir Kızılay

Title   *Positioning Objects with Augmented Reality*

2019   Muhammed Yasin Babatürk

Title   *Smart House*

Awards and Fellowships

2023   Financial Support Program Fellow, Programme Committee of ICIAM-2023

2022   Program Fellow, Autumn school on model reduction and model predictive control with differential equations, Universität Trier

2022   Program Fellow, Hausdorff School on diffusive systems: pattern formation, bifurcations, and biological applications, part II, Universität Bonn-Hausdorff Research Institute for Mathematics (HIM)

2021   Inter-University Council (ÜAK) of Turkey – Awarded with the degree of Associate Professorship

2021   European Kovalevskaya Travel Grant recipient for the International Congress of Mathematicians (ICM 2022)

2021	Certificate of Recognition with the Stream organization of the "OR Meets Computation", Association of the European Operational Research Societies (31st EURO Conference)
2020	Certificate of Recognition with "The Comparison of C4.5 Classification Algorithm, Naïve Bayes And Support Vector Machine Based on Particle Swarm Optimization (PSO) For Heart Disease Prediction", Program Committee of ICISHT 2020
2020	Best Presenter Award, Program Committee of ICAISD 2020
2020	8th Heidelberg Laureate Forum Fellow, International reviewers from Association for Computing Machinery (ACM), Norwegian Academy of Science and Letters (DNVA) and International Mathematical Union (IMU)
2019	Financial Support Program Fellow, Programme Committee of ICIAM-2019
2019	2019 Young Visiting Research Award, Embassy of France Turkey
2018	Travel Grant, Society for Mathematical Biology (SMB) and European Society for Mathematical and Theoretical Biology (ESMTB)
2017	Program Fellow, School Orthogonal Polynomials in approximation theory and mathematical physics, ICMAT-Institute of Mathematical Sciences
2016	Best Student Poster Award, Program Committee of Biomath 2016
2016	Scientific Conference and Young Scientist School Fellow, SMB
2016	Scientific Conference Fellow, London Mathematical Society
2014	Doctoral Studies Fellow, Celal Bayar University Foundation of Graduate Education
2012	Highest ranked student in M.Sc. Mathematics, with GPA: 3.93/4.00, Muğla Sıtkı Koçman Foundation
2010	Scientific Research Fellow, Sıtkı Koçman Foundation

Publications

Book Chapters

1. **Gürbüz B.**, Gökçe A., "An algorithm and stability approach for the acute inflammatory response dynamic model", Operations Research, Taylor & Francis-CRC Press, 1st Ed., 192-217, 2022. DOI: 10.1201/9781003324508-14.

2. **Gürbüz B.**, Sezer M., "Laguerre matrix-collocation method to solve systems of pantograph type delay differential equations", 4th International Conference on Computational Mathematics and Engineering Sciences (CMES-2019), Springer, Cham., 121-132, 2020. DOI: 10.1007/978-3-030-39112-6

3. **Gürbüz B.**, Sezer M., "A modified Laguerre matrix approach for Burgers-Fisher type nonlinear equations", Numerical Solutions of Realistic Nonlinear Phenomena, Springer, 107-123, 2020. DOI: 10.1007/978-3-030-37141-8

SCI, SCI-E, E-SCI, SSCI, AHCI indexed publications

1. Yönet N., **Gürbüz B.**, Gökçe A., "An alternative numerical approach for an improved ecological model of interconnected lakes with a fixed pollutant", Computational and Applied Mathematics (Comput Appl Math), 42(56), 2023. DOI: 10.1007/s40314-023-02191-3

2. Gökçe A., **Gürbüz B.**, "A numerical scheme for the one-dimensional neural field model", An International Journal of Optimization and Control: Theories & Applications (Int J Opt Cont), 12(2), 184-193, 2022.

3. **Gürbüz B.**, Rendall A., " Analysis of a model of the Calvin cycle with diffusion of ATP", Discrete & Continuous Dynamical Systems-B (Discrete Contin Dyn Syst Ser B), 2021. DOI: 10.3934/dcdsb.2021268

4. **Gürbüz B.**, Weber G.-W., "An introduction to the special issue on numerical techniques meet with OR-Part II", Foundations of Computing and Decision Sciences (Found Comput Decis Sci), 46(3) 201-204, 2021. DOI: 10.2478/fcds-2021-0013

5. **Gürbüz B.**, "A computational technique for solving singularly perturbed delay partial differential equations", Foundations of Computing and Decision Sciences (Found Comput Decis Sci), 46(3) 221-233, 2021. DOI: 10.2478/fcds-2021-0015

6. **Gürbüz B.**, "A numerical approach for solving a class of nonlinear functional differential equations", Tbilisi Mathematical Journal (Tbil Math J), (7) 1-11, 2021.

7. **Gürbüz B.**, Sezer M., "Modified operational matrix method for second-order nonlinear ordinary differential equations with quadratic and cubic terms", An International Journal of Optimization and Control: Theories & Applications (Int J Opt Cont), 10(2) 218-225, 2020.

8. **Gürbüz B.**, "A computational approximation for the solution of retarded functional differential equations and their applications to science and engineering", Journal of Industrial and Management Optimization-AIMS (J Ind Manag Optim), 2021. DOI: 10.3934/jimo.2021069

9. **Gürbüz B.**, "A numerical scheme for the solution of neutral integro-differential equations including variable delay", Mathematical Sciences (Math Sci), 2021. DOI: 10.1007/s40096-021-00388-3

10. **Gürbüz B.**, Weber G.-W., "Editorial-Preface to the special issue on numerical techniques meet with OR", Foundations of Computing and Decision Sciences (Found Comput Decis Sci), 46(1) 3-10, 2021. DOI: 10.2478/fcds-2021-0001

11. **Gürbüz B.**, Mawengkang H., Husein I, Weber G.-W., "Rumour propagation-an operational research approach by computational and information theory", Central European Journal of Operations Research (Cent Eur J Oper Res), 2021. DOI: 10.1007/s10100-020-00727-0

12. Páez Chávez J., **Gürbüz B.**, Pinto M. A. C., "The effect of aggressive chemotherapy in a model for HIV/AIDS-cancer dynamics", Communications in Nonlinear Science Numerical Simulation (Commun Nonlinear Sci Numer Simul), (75) 109-120, 2019. DOI: 10.1016/j.cnsns.2019.03.021

13. Çetin M., **Gürbüz B.**, Sezer M., "Lucas collocation method for system of high-order linear functional differential equations", Journal of Science and Arts (J Sci Arts), 4(45) 891-910, 2018.

14. Gökmen E., **Gürbüz B.**, Sezer M., "A numerical technique for solving functional integro-differential equations having variable bounds", Computational and Applied Mathematics (Comput Appl Math), 1-15, 2018. DOI: 10.1007/s40314-018-0653-z

15. **Gürbüz B.**, Sezer M., "Modified Laguerre collocation method for solving 1-dimensional parabolic convection-diffusion problems", Mathematical Methods in the Applied Sciences (Math Meth Appl Sci), 41, 8481-8487, 2018. DOI: 10.1002/mma.4721

16. **Gürbüz B.**, Sezer M., "A new computational method based on Laguerre polynomials for solving certain nonlinear partial integro differential equations", Acta Physica Polonica A (Acta Phys Pol, A), 132(3) 561-563, 2017. DOI: 10.12693/APhysPolA.132.561

17. **Gürbüz B.**, Sezer M., "Laguerre polynomial solutions of a class of delay partial functional differential equations", Acta Physica Polonica A (Acta Phys Pol, A), 132(3) 558-560, 2017. DOI: 10.12693/APhysPolA.132.558

18. **Gürbüz B.**, Sezer M., "Laguerre polynomial approach for solving nonlinear Klein-Gordon equations", Malaysian Journal of Mathematical Sciences (Malays J Math Sci), 11(2) 191-203, 2017.

19. **Gürbüz B.**, Sezer M., "An hybrid numerical algorithm with error estimation for a class of functional integro-differential equations", Gazi University Journal of Science (Gazi Uni J Sci), 29(2) 419-434, 2016.

20. **Gürbüz B.**, Sezer M., "Laguerre polynomial solutions of a class of initial and boundary value problems arising in science and engineering Fields", Acta Physica Polonica A (Acta Phys Pol, A), 129(1) 194-197, 2016. DOI: 10.12693/APhysPolA.130.194

21. **Gürbüz B.**, Sezer M., Güler C., "Laguerre collocation method for solving Fredholm integro-differential equations with functional arguments", Journal of Applied Mathematics (J Appl Math), (2014) 2014. DOI: 10.1155/2014/682398

22. **Gürbüz B.**, Sezer M., "Laguerre polynomial approach for solving Lane–Emden type functional differential equations", Applied Mathematics and Computation (Appl Math Comput), 242 (2014) 255-264. DOI: 10.1016/j.amc.2014.05.058

23. **Gürbüz B.**, Gülsu M., Sezer M., "Numerical approach of high-order linear delay difference equations with variable coefficients in terms of Laguerre polynomials", Mathematical & Computational Applications (Math Comput Appl), 16(1) 267-278, 2011.

24. Gülsu M., **Gürbüz B.**, Öztürk Y., Sezer M., "Laguerre polynomial approach for solving linear delay difference equations", Applied Mathematics and Computation (Appl Math Comput), 217 (2011) 6765-6776. DOI: 10.1016/j.amc.2011.01.112

Reports

1. Gökçe A., **Gürbüz B.**, Aguiar M., Weber G. W., "Analytical Approach to Complexity in Nature, Medicine and Technology - Mathematics and OR at DSABNS 2022 in Beautiful Bilbao", International Federation of Operational Research Societies Newsletter, 17(2) 23-24, 2022. `https://www.ifors.org/newsletter/ifors-news-june-2022.pdf`

2. Gökçe A., **Gürbüz B.**, Aguiar M., Weber G. W., "Mathematics and OR at DSABNS 2022- complexity in nature, medicine and technology", OR News, May, 40-42, 2022.

3. **Gürbüz B.**, Forster-Heinlein B., Weber G. W., "How a Regional Meeting Turns out a Global with OR Studies - DMV-ÖMG Annual Conference 2021 in Passau and Virtually", International Federation of Operational Research Societies Newsletter, 17(1) 18-19, 2022. `https://www.ifors.org/newsletter/ifors-news-march-2022.pdf`

4. **Gürbüz B.**, Forster-Heinlein B., Weber G. W., "Report on DMV - ÖMG 2021 - On How a Local and Virtual Meeting Turns out a Global Format", Newsletter 46 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 48 13-14, 2022. `https://pages.di.unipi.it/bigi/europt/Newsletter48-EUROPT.pdf`

5. **Gürbüz B.**, Küçükkoç İ., Özdemir N., Weber G. W., "OR Scientists Meet at a Multidisciplinary Conference ICAME'21, Turkey, Online", International Federation of Operational Research Societies Newsletter, 16(4) 17-19, 2021. `https://www.ifors.org/newsletter/ifors-news-dec2021.pdf`

6. **Gürbüz B.**, Weber G. W., "8th HLF 2021: Next-Generation Dynamic Forum in Heidelberg: World's Supreme Scientists, COVID-19 and OR", International Federation of Operational Research Societies Newsletter, 16(4) 28-30, 2021. `https://www.ifors.org/newsletter/ifors-news-dec2021.pdf`

7. **Gürbüz B.**, Weber G. W., "8th HLF 2021: Next-Generation Dynamic Forum in Heidelberg: World's Supreme Scientists, COVID-19 and OR", QOR Newsletter, 34-37, November, 2021. `https://organizationalexcellencespecialists.ca/wp-content/uploads/2021/11/QOR_Newsletter_August-September_V2_I2-3.pdf`

8. **Gürbüz B.**, Weber G. W., "DMV-ÖMG Annual Conference 2021 On How a Local and Virtual Meeting Turns out a Global Format with OR Studies", QOR Newsletter, 38-41, November, 2021. `https://organizationalexcellencespecialists.ca/wp-content/uploads/2021/11/QOR_Newsletter_August-September_V2_I2-3.pdf`

9. **Gürbüz B.**, Weber G. W., "An Operational Approach to the Neuroscience Studies: ICMNS-2020-Online", OR news: das Magazin der GOR, 17-18, November, 2020.

10. **Gürbüz B.**, "An Operational Approach to Neuroscience: ICMNS–2020– Netherlands", International Federation of Operational Research Societies Newsletter, 15(4) 36-37, 2020. `https://www.ifors.org/newsletter/ifors-news-dec2020.pdf`

11. **Gürbüz B.**, "Autumn School on Bilevel Optimization, Germany", International Federation of Operational Research Societies Newsletter, 15(4) 20-21, 2020. `https://www.ifors.org/newsletter/ifors-news-dec2020.pdf`

12. **Gürbüz B.**, Weber G. W., "The World Speech Day Morocco-2020: an OR Guidance for Post Covid-19 Period-Inspiring Women's Perspectives", OR news: das Magazin der GOR, 46-47, August, 2020.

13. **Gürbüz B.**, "Report on The World Speech Day Morocco-2020: an OR Guidance for Post Covid-19 Period-Inspiring Women's Perspectives", Newsletter 46 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 46 21-23, 2020. `https://www.euro-online.org/websites/continuous-optimization/wp-content/uploads/sites/7/2020/07/Newsletter46-EUROPT.pdf`

14. **Gürbüz B.**, "Seminars Going Online... The Digitalized World", International Federation of Operational Research Societies Newsletter, 14(2) 18, 2020. `https://www.ifors.org/newsletter/ifors-news-june2020.pdf`

15. Mawengkang H., Suwilo S., **Gürbüz B.**, "InteriOR-2019: Cheerful OR with the Youth in Medan, Indonesia-10 Years at the Side of EURO and IFORS Conference Communities", International Federation of Operational Research Societies Newsletter, 13(4) 15-16, 2019. `https://ifors.org/newsletter/ifors-news-december-2019.pdf`

16. Mawengkang H., Suwilo S., **Gürbüz B.**, Weber G. W., "Report on InteriOR-2019", Newsletter 44 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 44 17-19, 2019. `https://www.euro-online.org/websites/continuous-optimization/wp-content/uploads/sites/7/2019/10/Newsletter44-EUROPT.pdf`

17. **Gürbüz B.**, Weber G. W., "Report on EURO-K Conference Dublin 2019", Newsletter 43 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 43 11-16, 2019. `https://www.euro-online.org/websites/continuous-optimization/wp-content/uploads/sites/7/2019/07/Newsletter43-EUROPT.pdf`

18. **Gürbüz B.**, Weber G. W., "Report on ICCESEN 2018: A Double OR Meeting: Broadening Horizons", Newsletter 42 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 42 16-18, 2019. `https://www.euro-online.org/websites/continuous-optimization/wp-content/uploads/sites/7/2019/03/Newsletter42-EUROPT-1.pdf`

19. **Gürbüz B.**, Weber G. W., "ICCESEN 2018 and ICSuSaT-2018 -A double OR Meeting: Broadening Horizons", Newsletter 41 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 41 68-69, 2018. `http://pages.di.unipi.it/bigi/europt/Newsletter41-EUROPT.pdf`

20. **Gürbüz B.**, "International Conference on Computational and Experimental Science and Engineering", International Federation of Operational Research Societies News, 12(4) 23-24, 2018. `http://ifors.org/newsletter/ifors-news-dec2018.pdf`

21. **Gürbüz B.**, Weber G. W., "Report on ICAME'18 Balikesir hosts OR meeting which exceeds the limits", Newsletter 41 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 41 43-44, 2018. `http://pages.di.unipi.it/bigi/europt/Newsletter41-EUROPT.pdf`

22. **Gürbüz B.**, Weber G. W., "Balikesir hosts OR meeting which exceeds the limits", International Federation of Operational Research Societies News, 12(3) 22-23, 2018. `http://ifors.org/newsletter/ifors-news-sept2018.pdf`

23. **Gürbüz B.**, Weber G. W., "OR: Connecting world with knowledge", Newsletter 40 of EUROPT, EUROPT - The Continuous Optimization Working Group of EURO, 40 18-19, 2018. `http://pages.di.unipi.it/bigi/europt/Newsletter40-EUROPT.pdf`

24. **Gürbüz B.**, Weber G. W., "Deepening OR connections with experimental science and engineering", International Federation of Operational Research Societies News, 11(4) 6, 2017. `http://ifors.org/newsletter/ifors-news-december-2017.pdf`

Academic Community Involvement

2021–Present	**Editor**	*Journal of Industrial & Management Optimization (ISSN: 1547-5816)*
2019–2021	**Guest Editor**	*Foundations of Computing and Decision Sciences (ISSN: 0867-6356)*
	Reviewer	*AMS: Mathematical Reviews (ISSN: 0025-5629)*
	Referee	*Applied Mathematics and Computation (ISSN: 0096-3003)*
	Referee	*Chaos, Solitons & Fractals (ISSN: 2590-0544)*
	Referee	*Nonlinear Dynamics (ISSN: 0924-090X)*
	Referee	*International Journal of Systems Science (ISSN: 0020-7721)*
	Referee	*Journal of Industrial and Management Optimization (ISSN: 1547-5816)*
	Referee	*Numerical Algebra, Control and Optimization (ISSN: 2155-3289)*
	Referee	*Annals of Operations Research (ISSN: 0254-5330)*
	Referee	*Neural Computing and Applications (ISSN: 0941-0643)*
	Referee	*Central European Journal of Operations Research (ISSN: 1435-246X)*
	Referee	*IEEE Transactions on Fuzzy Systems (ISSN: 10636706)*
	Referee	*Chaos: An Interdisciplinary Journal of Nonlinear Science (ISSN: 09600779)*
	Referee	*International Journal of Environmental Science and Technology (ISSN: 17351472)*
	Referee	*AIMS Mathematics (ISSN: 2473-6988)*
	Referee	*RAIRO – Operations Research (ISSN: 0399-0559)*
	Referee	*Optimization (ISSN: 0233-1934)*
	Referee	*Mediterranean Journal of Mathematics (ISSN: 1660-5446)*
	Referee	*Turkish Journal of Mathematics (ISSN: 1300-0098)*

Academic Community Involvement

2022 **Stream Organizer**, *"OR Meets Computation", 32nd European Conference on Operations Research (EURO 2022)*, Espoo, Finland.

2021 **Stream Organizer**, *"Numerical, Optimization and Dynamical Advances Meet with OR", 22nd Conference of the International Federation of Operational Research Societies (IFORS 2021)*, Seoul, South Korea.

2021 **Stream Organizer**, *"OR Meets Computation", 31st European Conference on Operations Research (EURO 2021)*, Athens, Greece.

2021 **Technical programme committee**, *10th International Conference on Pure and Applied Mathematics (ICPAM 2021)*, Athens, Greece.

2021 **Organizer of Special Session: Operational Research**, *International Conference on Applied Mathematics in Engineering (ICAME'21)*, Balıkesir, Turkey.

2021 **Scientific committee**, *International Conference on Applied Mathematics in Engineering (ICAME'21)*, Balıkesir, Turkey.

2021 **Scientific committee**, *4th International Conference on Life and Engineering Sciences (ICOLES 2021)*, Fenerbahçe University, İstanbul, Turkey.

2021 **Technical programme committee**, *10th International Conference on Computer Sciences and Computational Mathematics (ICCSCM 2021)*, Langkawi, Malaysia.

2021 **Scientific committee**, *5th International Conference on Computational Mathematics and Engineering Sciences (CMES 2021)*, Van, Turkey.

2020 **Scientific committee**, *3rd International Conference on Life and Engineering Sciences (ICOLES 2020)*, Fenerbahçe University, İstanbul, Turkey.

2020 **Technical programme committee**, *9th International Conference on Computer Sciences and Computational Mathematics (ICCSCM 2020)*, Langkawi, Malaysia.

2020 **Scientific committee**, *International Conference on Soft Computing & Machine Learning (SCML 2020)*, Online.

2020 **Technical committee**, *9th International Conference on Pure and Applied Mathematics (ICPAM 2020)*, Online.

2019 **Technical committee**, *8th International Conference on Pure and Applied Mathematics (ICPAM 2019)*, Brussels, Belgium.

2019 **Technical programme committee**, *8th International Conference on Computer Sciences and Computational Mathematics (ICCSCM 2019)*, Langkawi, Malaysia.

2019 **Scientific committee**, *International Conference on Soft Computing & Machine Learning (SCML 2019)*, Wuhan, China.

2019 **Stream Organizer**, *"Numerical Techniques Meets with OR", 30th European Conference on Operational Research (EURO 2019)*, Dublin, Ireland.

2019 **Scientific committee**, *4th International Conference on Computational Mathematics and Engineering Sciences (CMES 2019)*, Antalya, Turkey.

2018 **Scientific committee**, *International Conference on Computational Modeling, Simulation and Mathematical Statistics (CMSMS 2018)*, Xi'an, China.

2018 **Chair**, *11th European Conference on Mathematical and Theoretical Biology (ECMTB 2018)*, Lisbon, Portugal.

2018 **Chair**, *International Conference on Applied Mathematics in Engineering (ICAME 2018)*, Balıkesir, Turkey.

2018 **Organisation committee**, *1st International Conference on Sustainable Science and Technology (ICSuSAT 2018)*, Antalya, Turkey.

2018 **Scientific committee**, *3rd International Conference on Computational Mathematics and Engineering Sciences (CMES 2018)*, Girne, Turkish Republic of Northern Cyprus.

2018 **Technical Committee**, *7th International Conference on Pure and Applied Mathematics (ICPAM 2018)*, Budapest, Hungary.

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Invited Talks

Oct 2022 **Lecture**, *Bangladesh Society for Mathematical Biology*.
"Differential equations and their applications to mathematical biology"

Jun 2021 **Seminar**, *Department of Mathematics, Ordu University*.
"An algorithm and stability approach for the acute inflammatory response dynamic model"

May 2021 **Lecture**, *MMSI-Binus Graduate Program, Bina Nusantara University*.
"The comparison of optimization algorithms for heart disease prediction"

Apr 2021 **Seminar**, *Department of Mathematics, Balıkesir University*.
"Numerical Studies on Biological Models"

Feb 2021 **Seminar**, *Department of Mathematics, Selçuk University*.
"Numerical Studies on Biological Models"

Dec 2020 **Seminar**, *Department of Industrial Engineering, Eskişehir Technical University*.
"Optimization Problems in Mathematical Biology"

Nov 2020 **Conference–Keynote speaker**, *SIMANTAP 2020*, Siantar, Indonesia.
"Numerical Investigations of Mathematical Models in Biology"

Jun 2020 **Seminar–Public speaker**, *WSD Morocco 2020*, University of Mohammed Premier Oujda, Morocco.
"A Mathematical Approach to Covid–19"

Oct 2019 **Advanced Seminar in Analysis**, *Institute of Mathematics, Johannes Gutenberg-University Mainz*.
"A numerical approach for solving SIR epidemic models"

Aug 2019 **Conference–Keynote speaker**, *InteriOR 2019*, Medan, Indonesia.

Aug 2019 **Seminar**, *Department of Mathematics, UIN-SU University*.

Aug 2019 **Seminar**, *STMIK, Pelita Nusantara*.
"Implementation of Scientific Data in the Era of the Industrial Revolution 4.0"

Dec 2019 **Seminar**, *Department of Mathematics, Gebze Technical University*.
"Numerical solutions of convection-reaction-diffusion equations and their applications in biology"

May 2018 **Seminar**, *Üsküdar University*.
"Sepsis and Mathematics"

Professional Memberships

2016–Present Society for Mathematical Biology (SMB)

2015–Present European Society for Mathematical and Theoretical Biology (ESMTB)

2012–2022 Turkish Math Society (TMD)

Languages

Turkish **Mothertongue**

English **Advanced**

German **Upper Intermediate**   *B2*

Portuguese **Intermediate**   *B*

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