Tamaz Tadumadze
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Education

- The University Honors Diploma in Mathematics, Ivane Javakhishvili Tbilisi State University.
- Dr. Habilitated (Doctor of Science) in Differential Equations and Mathematical Physics, A. Razmadze Institute of Mathematics of the Georgian Academy of Sciences-1985.
- The Scientific-Pedagogical Title of the Professor by Specialization of Differential Equations, Ivane Javakhishvili Tbilisi State University- 1996.

Theaching Courses:

- Ordinary Differential Equations .
- Elected Questions of Ordinary Differential Equations.
- Functional Differential Equations .
- Optimal Control of Functional Differential Equations .
- Some Questions of Variation Analysis.

Research Intrests:

- Optimal Control of Functional-Differential Equations : Necessary Conditions of Optimality , Existence Theorems, Regular Perturbations, Numerical Methods .
- Theory of Functional Differential Equations: Variation Formulas of Solutions, Well-Posedness, Inverse Problems, Sensitivity Analysis .

Participation in Scientific Grant Projects

- „Optimization of controlled systems with delays considering non-fixed initial moment, mixed initial conditions and restrictions", Georgian National Science Foundation, 2006- 2008, Research Director.
- „ Inverse and Boundary control problems with applications (Econet-16362VB-France), 2007-2008, Leader of Georgian Team.
- * „Optimization of initial data and inverse problems for some classes of functional-differential equations", Georgian National Science Foundation, 2009- 2011, Project Manager and Research Director.
- Initial data optimization problems for some classes of neutral functional differential equations: variation formulas, necessary optimality conditions, existence theorems , Shota RusTaveli National Science Foundation 2013-2015, Research Director.

Supervision of Doctoral Dissertations:

Arsenashvili Akaki ; Avalishvili Natalia ; Dvalishvili Phridon ; Gorgodze Nika ; Gvaberidze Bezhan ; Gelashvili Koba ; Alkhazishvili Lela ; Ramishvili Ia.

Participation in Scientific Forums:
- **Fourth International Conference on Applied Mathematics and Computing, August 12-18, 2007, Plovdiv, Bulgaria.**
- **The 2nd International Conference on Control and Optimization with Industrial , June 2-4, 2008, Applications, Baku, Azerbaijan.**
- **Workshop Problemes Inverses, Controle de Bord et Applications", December 17-18, 2008, Nantes, France.**
- **International Congress of Mathematicians , August 19-27, 2010, Hyderabad, India.**
- **Second International Conference Mathematics in Armenia : Advances and Perspectives , August 24-31, 2013, Tsaghkadzor, Armenia.**
- **Conference on Functional Differential Equations and Applications-FDEA, August 24-29, 2014, Ariel, Israel.**
- **First Salerno-Tbilisi Workshop on Modeling in Mathematics, February 24-26, 2014, Salerno, Italy.**
- **Swedish-Georgian Conference in Analysis and Dynamical Systems, July 15-22 , 2015, Tbilisi, Georgia.**
- **11th International Conference Numerical Analysis and Optimization Days-Jano11', April 27 -29, 2016, Beni Mellal, Morocco.**

Awards :
- **A. Razmadze Award of the Georgian National Academy of Sciences-2001.**
- **The Order of Honor-2013.**

Selected Pulications:

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(i)   Monographs:

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1. **T. Tadumadze,** Variation formulas of solutions for functional differential equations with several constant delays and their applications in optimal control problems. *Mem . Differ. Equ. Math . Phys.,* **70** (2017), 7-97.
2. **T. Tadumadze** , N. Gorgodze , Variation formulas of a solution and initial data optimization problems for quasi-linear neutral functional differential equations with discontinuous initial condition. *Mem. Differ. Equ. Math. Phys.* **63** (2014), 1-77.
3. G. L. Kharatishvili , T. A. Tadumadze , Variation formulas of solutions and optimal control problems for differential equations with retarded argument. *J. Math. Sci. (N. Y)* , **104** (1) (2007), 1-175 .
4. G. Kharatishvili , **T. Tadumadze ,** N. Gorgodze ,   Continuous dependence and differentiability of solution with respect to initial data and right-hand side for differential equations with deviating argument. *Mem. Differ. Equ. Math. Phys*., **19** (2000), 3-105 .
5. **T. Tadumadze ,**   Some problems in the qualitative theory of optimal control. (Russian) *Tbilis. Gos. Univ. , Tbilisi,* 1983 .
6. G. L. Kharatishvili, Z. A. Machaidze, N. I. Markozashvili , **T. A. Tadumadze**, Abstract variational theory ant its application to optimal problems with delays. (Russian) *Metsniereba , Tbilisi ,* 1973.

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(ii)   Scientific Papers:

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1. N. Gorgodze , I. Ramishvili , **T. Tadumadze** , Continuous dependence of solution of a neutral functional differential equation on the right-hand side and initial data

considering perturbations of variable delays. *Georgian Math. J.,* **23** (4) (2016), 519-535.

2. T. Tadumadze, Inverse problem about transition in a fixed point for linear neutral funcional differential equations. *Simin. I. Vekua Inst. Appl. Math., Rep.,* **41** (2015), 59-62.

3. **T. Tadumadze** , Variation formulas for solution of delay differential equations with mixed initial condition and delay perturbation. *Nonlinear Oscillations,* **17** (4) (2014), 503-532.

4. **T. Tadumadze ,** N. Gorgodze , Variation formulas of solution for a functional differential equation with delay function perturbation. *Journal of Contemporary Mathematical Analysis ,* **49** (2) (2014) , 53- 63.

5. **T. Tadumadze** , N. Gorgodze , Variation formulas of solution for a neutral functional-differential equation taking into account delay funtion perturbation and the discontinuous initial condition. *Functionl Differential Equations,* **21** (3-4) (2014), 147-154 .

6. **T. Tadumadze** , Optimization of initial data for linear neutral functional-differential equations with the discontinuous initial condition. *Azerbaijan Journal of Mathematics,* **2** (2) (2012) , 84-93.

7. **T. Tadumadze** , Nachaoui A , Variation formulas of solution for a controlled delay functional differential equation considering delay perturbation. *TWMS J. App. Eng. Math.,* **1** (1) (2011), 34-44 .

8. **T. Tadumadze** , On the existence of an optimal element for a delay control problem. *Nonlinear Analysis ,* **73** (2010), 211-220.

9. **T. Tadumadze** , An inverse problem for some classes of linear functional differential equations. *J. App. and Comput. Math.,* **8** (2) (2009) , 239-250.

10. **T. Tadumadze** , Formulas of variation for solutions of some classes of functional differential equations and their applications. *Nonlinear Analysis* **71** (2009) , 706-710 .

11. G. L. Kharatishvili , T. A. Tadumadze , Variation formulas for solution of a nonlinear differential equation with time delay and mixed initial condition. *J. Math. Sci. (N.Y.),* **148** (3) (2008) , 302- 330 .

12. G. L. Kharatishvili , T. A. Tadumadze , Necessary optimality conditions for optimal control problems with delays and mixed initial conditions. *Doklady Mathematics,* **73** (3) (2006),380-383;*translation from Doklady Akademii Nauk,* **408**(3)(2006),313-316 .

13. G. L. Kharatishvili , T. A. Tadumadze ,Variation formulas for the solutions of delay differential equations with discontinuous initial conditions. (Russian, English) *Sb. Math.,* **196** (8) (2005), 1137-1163 ;*translation from Mat. Sb.,* **196** (8) (2005), 49-74 .

14. G. L. Kharatishvili , T. A. Tadumadze , Well-posedness of the Cauchy problem for nonlinear differential equations with variable delays. (Russian, English) *Differ. Equ.* **40** (3) (2004), 360-369 ; *translation from Differ. Uravn.,* **40** (3) (2004) 338-345 .

15. B. Kashkosh , **T. Tadumadze** , Differential game of evasion with delays. *J. Optimization Theory and Application.* **44** (2) (1984), 231-268 .

16. **T. Tadumadze ,** Continuity of the minimum of an integral functional in a nonlinear optimum-control problem. (Russian, English) *Differ. Equ.* **20** (6)(1984), 716-720 ; *translation from Differ. Uravn.,* **20** (6) (1984), 991-995.

17. **T. Tadumadze ,** Existence theorems for solutions of optimal problems with variable delays. *Control and Cybernetics ,* **10**, (3-4) (1981), 125-134 .

18. G. Kharatishvili , **T. Tadumadze ,** Nonlinear optimal control systems with variable time lags. (Russian, English) *Sb. Math.* **35** (6) (1978), 863-881 ; *translation from Mat. Sb.* **107(149) (**4(2)) (1978) , 613-633 .