

Address

Dr. Vlado Gicev

Univ. "Goce Delcev"
Krste Misirkov b.b.
2000 Stip, Macedonia

tel. ++389 75 499 790; FAX ++389 32 390 700;

E-mails: vlado.gicev@ugd.edu.mk; vgicev@gmail.com

URL: <https://scholar.ugd.edu.mk/gicev>

Education

- Ph.D., Univ. of Southern California, Los Angeles CA, Civil Engineering, 2005.
- M.Sc., Univ. "Sts. Cyril and Methodius", Skopje, Mechanical Engineering, 1996.
- Dipl. Ing., Univ. "Sts. Cyril and Methodius", Skopje, Civil Engineering, 1988.

Employment

- o Full Professor and Head of the group of Applied Mechanics
Dept. of Mining and Geology at Univ. "Goce Delcev", Stip, Dec 2013-
- o Full Professor in the Group of Applied Mathematics and Mathematical modelling on
Computer Science Dept. at Univ. "Goce Delcev", Stip, Dec. 2013-
- o Assoc. Professor in the Group of Applied Mechanics, Dept. of Mining and Geology
and in the Group of Applied Mathematics and Mathematical modelling on Computer
Science Dept at Univ. "Goce Delcev", Stip, 2009-2013,
- o Assist. Professor in the Group of Applied Mechanics, Dept. of Mining and Geology
at Univ. "Goce Delcev", Stip, 2005-2009,
- o Research and Teaching Assistant, Univ. of Southern California, Civil Eng. Dept., Los
Angeles CA, 2000-2005,
- o Research and Teaching Assistant, Univ. "Sts. Cyril and Methodius", Faculty of
Mining and Geology 1993-1999,
- o Computer programmer - business analyst in Trading enterprise "Turtel", 1988-1993.

Membership in Professional Societies

- International Working Group of Rotational Seismology
- Macedonian Society of Applied Mechanics

Scientific Research

- linear and nonlinear soil-flexible foundation-structure interaction,
- artificial boundaries for wave propagation,
- nonlinear wave propagation,
- numerical methods,
- mechanics of solid deformable bodies,
- structural dynamics.

Teaching Experience

Full Professor at Univ. “Goce Delcev”, Dept. of Computer Science:

Structural Programming,
Numerical Methods,
Engineering Analysis,
Numerical Solution of Ordinary and Partial Differential Equations

Full Professor at Univ. “Goce Delcev”, Dept. of Mining and Geology:

Applied Mechanics I (Statics),
Applied Mechanics II (Dynamics),
Strength of Materials,
Theory of Structures,
Application of the Civil Engineering in the Mining.

Guest Professor at “Middle East Technical Univ.”, Northern Cyprus Campus Fall and Spring Semester 2015/16 academic year, Dept. of Civil Engineering

Strength of Materials,
Applied Mechanics II (Dynamics)
Theory of Structures I

Teaching Assistant at University of Southern California, Civil Eng. Dept.:

CE 358 Theory of Structures I,
CE 458 Theory of Structures II with instructions for the software SAP2000,
CE 507 Mechanics of Solids,
CE 525b Engineering Mathematics,
CE 529a Finite Elements,
CE 541a Dynamics of Structures.

Other Selected Professional Activities

1. Participation in internal projects related with operations of the Los Angeles and Vicinity Strong Motion Network and data processing 2000-2005,
2. Consulting for stabilization of the ash deposit at power plant Oslomej Kicevo, Macedonia,
3. Review of the seismic hazard study for mine Sasa,
4. Review of the seismic hazard study of the tailing dam in mine Bucim (2010),
5. Review of the seismic hazard study of the tailing collector in mine Bucim,
6. Review of the static and dynamic part of the project for dislocation of the river Temnica at the coal mine Oslomej prepared by consulting firm GEING Skopje.
7. Participation on the third US-Japan National Resources Workshop on Soil-Structure Interaction, Menlo Park, CA, March 2004.
8. Invited paper on the 1st Workshop of Rotational Seismology: Rotations in a Seven Story Reinforced Concrete Hotel accompanying Nonlinear Waves During Earthquake Excitation, with M.D. Trifunac, Menlo Park, CA, 17-20 Sep. 2007,
9. Cooperative Research on 2-D Soil-Structure Interaction Model with P-SV Plane Wave, supported by: Macedonian and Chinese Ministries of Education and Science, 01 Jul. 2007 – 30 Jun. 2009, principal co-researcher with Xiaoming Yuan from Harbin University

10. Dynamic analysis of structures with flexible foundation using the method of finite differences,
supported by: Macedonian and Turkish (TUBITAK) Ministries of Education and Science
01 Jul. 2007 – 30 Jun. 2009, principal co-researcher with Abdul Hayir from Istanbul Technical University.
11. Anonymous reviewer in the journals:
- Earthquake Engineering and Structural Dynamics
- Soil Dynamics and Earthquake Engineering
- Int. Journal of Computer Mathematics.
12. Currently scientific co-advisor of one PhD dissertation and two MS theses on University of Guilan, Rasht, Iran
13. Currently scientific advisor of one PhD Dissertation on Univ. “Goce Delcev” Stip
14. Scientific advisor of
- five successfully defended MS Thesis,
- three successfully defended PhD Dissertations on Univ. “Goce Delcev” Stip,

Selected Scientific Publications

▪ Publications in International journals

1. Trifunac, M.D., and Gicev, V. Response spectra for differential motion of columns, paper II: Out-of-plane response, *Soil Dynamics and Earthquake Engineering*, vol.26, issue 12, 2006, 1149-1160.
2. Gicev, V. and Trifunac, M.D. Permanent deformations and strains in a shear building excited by a strong motion pulse, *Soil Dynamics and Earthquake Engineering*, vol. 27, issue 8, August 2007, 774-792.
3. Gicev, V. and Trifunac, M.D. Energy and power of nonlinear waves in a seven story reinforced concrete building, *Journal of Indian Society of Earthquake Technology*, **44** (1), 2007, 305-323.
4. Gicev, V. and Trifunac, M.D. Rotations in a shear beam model of a seven-story building caused by nonlinear waves during earthquake excitation, *Structural Control and Health Monitoring*, vol. 16 (4), 460-482, 2009, published Online: Jul 8 2008 DOI:10.1002/stc264.
5. V. Gicev and M.D. Trifunac. Transient and permanent rotations in a shear layer excited by strong earthquake pulses, *Bulletin of the Seismological Society of America*, vol. **99** (2B), 2009, 1391-1403.
6. V. Gicev and M.D. Trifunac. Transient and permanent shear strains in a building excited by strong earthquake pulses, *Soil Dynamics and Earthquake Engineering*, vol. 29, issue 10, 2009, 1358-1366. Published Online: Jun 3 2009 DOI: 10.1016/j.soildyn.2009.05.003
7. V. Gicev. Interakcija tlo-objekat u nelinearnom tlu, *Izgradnja*, vol. 62, br.12, 2008, 555-566 (on Serbian)
8. V. Gicev, M.D. Trifunac. Amplification of linear strain in a layer excited by a shear-wave earthquake pulse, *Soil Dynamics and Earthquake Engineering*, vol. 30, issue 10, 2010, 1073-1081. Published Online: May 5 2010 doi:10.1016/j.soildyn.2010.04.018
9. Gicev, V. i Trifunac M.D. Metoda prethodno procenjenih mogućih oštećenja od zemljotresa (PEDS) za sanaciju konstrukcija, *Izgradnja*, vol. 65, br. 5-6, 2011, 246-255 (on Serbian)

10. Gicev, V. and Trifunac, M.D. A note on predetermined earthquake damage scenarios for structural health monitoring, *Structural Control and Health Monitoring*, vol. 19 (8),746-757, 2012, Published Online: Jun 28 2011. DOI: 10.1002/stc.470
11. Gicev, V. and Trifunac, M.D. Asymmetry of nonlinear soil strains during soil-structure interaction excited by SH pulse, *Izgradnja*, vol. 66, br. 5-6, 2012, 129-148
12. Gicev, V. and Trifunac, M.D. Energy dissipation by nonlinear soil strains during soil-structure interaction excited by SH pulse, *Soil Dynamics and Earthquake Engineering*, vol. 43, 2012, 261-270.
13. Gicev, V., Trifunac, M.D and Orbovic, N. Translation, torsion, and wave excitation of a building during soil-structure interaction excited by an earthquake SH pulse, *Soil Dynamics and Earthquake Engineering*, vol. 77, 2015, 391-401.
14. Gicev, V., Trifunac, M.D and Orbovic, N. Two dimensional translation, rocking and waves in a building during soil – structure interaction excited by a plane earthquake P – wave pulse, *Soil Dynamics and Earthquake Engineering*, vol. 90, 2016, 454-466.
15. Gicev, V., Trifunac, M.D and Orbovic, N. Two dimensional translation, rocking and waves in a building during soil – structure interaction excited by a plane earthquake SV – wave pulse, *Soil Dynamics and Earthquake Engineering*, vol. 88, 2016, 76-91.
16. V.W. Lee, M. D. Trifunac, B. Đ. Bulajić, M. I. Manić, D. Herak, M. Herak, G. Dimov and V. Gičev. Seismic microzoning of Stip in Macedonia, *Soil Dynamics and Earthquake Engineering*, vol. 98, 2017, 54-66.
17. V.Kokalanov, V.Gicev, R.Golubovski. Influence of the source square size on the accuracy of numerical solution of wave propagation in half space, *Journal of Geological Resource and Engineering* vol.6, 80-89, 2018
18. A.Risteska and V.Gicev. The response of a shear beam as 1D medium to seismic excitations dependent on the boundary conditions, *Journal of Geological Resource and Engineering* vol.6, 135-142, 2018
19. Gicev, V. and Trifunac, M.D. Reduction of peak ground velocity by nonlinear soil response – I : Excitation by SH pulse, *Soil Dynamics and Earthquake Engineering*, vol. 127, 2019
<https://doi.org/10.1016/j.soildyn.2019.105810>
20. Gicev, V., Bazeghi, H., Trifunac, M.D. and Jalali, R.S. Flexibility of foundation increases the base shear and horizontal strains during an out-of-plane response to an SH pulse in linear and nonlinear soil, *Soil Dynamics and Earthquake Engineering*, vol. 127, 2019
<https://doi.org/10.1016/j.soildyn.2019.105837>
21. Gicev, V., Trifunac, M.D., Todorovska, M.I., Kocaleva, M., Stojanova, A. and Kokalanov, V. Ambient vibration measurements in an irregular building, *Soil Dynamics and Earthquake Engineering*, vol. 141, 2021
<https://doi.org/10.1016/j.soildyn.2020.106484>
22. Gicev, V., Trifunac, M.D., Todorovska, M.I. Reduction of peak ground velocity by nonlinear soil response – III: Excitation by an SV-wave pulse, *Soil Dynamics and Earthquake Engineering*, vol. 145, 2021
<https://doi.org/10.1016/j.soildyn.2020.106535>
23. Gicev, V., Trifunac, M.D., Todorovska, M.I. Reduction of peak ground velocity by nonlinear soil response – II: Excitation by a P-wave pulse, *Earthquake Engineering and Engineering Vibration*, vol. 20, issue 4, 2021, 823-841
<https://doi.org/10.1007/s11803-021-2054-3>

▪ **Scientific reports**

24. V. Gicev and M.D. Trifunac (2006). Rotations in the transient response of nonlinear shear beam, Dept. of Civil Engineering Report CE 06-02

available on:

<http://nisee.berkeley.edu/elibrary/Text/200701302>

25. V. Gicev and M.D. Trifunac (2006). Non-linear earthquake waves in seven-storey reinforced concrete hotel, Report CE 06-03

available on:

<http://nisee.berkeley.edu/elibrary/Text/200701303>

▪ **Participation on international conferences**

26. Gicev, V. and Trifunac, M.D. Rotations in a Seven Story Reinforced Concrete Hotel accompanying Nonlinear Waves During Earthquake Excitation, invited paper on the 1st Workshop of Rotational Seismology, Menlo Park, CA, 17-20 Sep. 2007

27. Invited lecturer “Soil-structure interaction including nonlinear soil”, journal “Izgradnja”, Belgrade, jun 2008.

28. Participation on the NATO Advanced research workshop on Soil-Structure Interaction, Borovec BG, 31Aug-3Sep, 2008.

29. V. Gicev. Soil Structure Interaction in Nonlinear Soil, chapter in the book “Coupled site and Soil-Structure Interaction Effects with Application to Seismic Risk Mitigation”, Springer, 2009.

30. A.Hayir and V.Gicev. “Fourier Amplitudes of the Foundation Motion connected with Soil-Structure Interaction”, Proceedings of the Twelfth International Conference on Civil, Structural and Environmental Engineering Computing, Funchal, Madeira, 01-04 Sep. 2009.

31. V.Gicev and A.Hayir. “Nonlinear Soil-Linear Structure Interaction: Energy and Strain Distribution”, Proceedings of the Twelfth International Conference on Civil, Structural and Environmental Engineering Computing, Funchal, Madeira, 01-04 Sep. 2009.

32. V. Gicev, M.D. Trifunac, and M.I. Todorovska. Reduction of seismic wave energy of SH pulse by nonlinear soil, *15th World Conference of Earthquake Engineering*, Lisboa, Portugal, 24-28 Sep.2012

▪ **Publications on local conferences**

33. Gicev, V. (2006). Shear strains in structure subjected to seismic pulse-like excitation. 1-D model, 2nd conference of the Macedonian geotechnical society, Ohrid.

34. Gicev, V. & Doneva, N. (2006). Permanent strains in building under strong ground pulse-like excitation, 4th conference for drilling and blasting in the mining, Ohrid.

35. Doneva, N. & Gicev, V. (2006). Tunnel boring machines and their application in the mining, 4th conference for drilling and blasting in the mining, Ohrid.

36. Gicev, V. (2011). Propagation of nonlinear seismic waves in semibounded 1-D media: A numerical approach, 8th Conference of Informatics and Information Technologies, Bitola