

## BRIDGE ENGINEERING RESEARCH CENTER

### Contact details

Name	<b>Bridge Engineering Research Center</b>
Acronym	<b>BRERC</b>
Logo	
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### Areas of expertise

**Tests for bridges and rail superstructures**  
**Composite bridges, Steel bridges stability and rehabilitation**  
**Nielsen and network arch bridges – design and optimization techniques, Truss structures – structural optimization**  
**Design of bridges and art works, monitoring te usage and technical expertise**  
**Concrete and wood bridges – design and rehabilitation**

### Team

**Assoc. Prof. Dr. Eng. Stefan I. Gutiu's** research interest focuses on the design and calculus according to Euronorms of steel and composite bridges. He is focused on the design and monitoring of composite structures.  
**Prof. Dr. Eng. Moga Petru's** research interest focuses on the calculus of steel and composite structures according to the Euronorms. He has a great number of published articles and books on the area of steel structures, with an emphasis on the issue of the stability of steel bridges.  
**Assist. Prof. Dr. Eng. Alexandra D. Danciu's** research interest focuses on the application of numerical methods in bridges and roads engineering. Her research includes structural optimization of truss and network arch bridges.  
**Assist. Prof. Dr. Eng. Mircea Suci**'s research interest focuses on the design, technical expertise and rehabilitation of concrete bridges.  
**Assist. Prof. Eng. Vladimir Marusceac's** reseach interest focuses on the use of glulam wood in bridge engineering.

### Representative projects

1. „**Develop National Annex SR EN 1994-2:2006**”, Contract no. 307/27.11.2007, Director: Prof. dr. eng. Radu Băncilă, "Politehnica" University of Timisoara. Beneficiary Ministry of Development, Public Works and Housing MDLPL TECHNICAL –Direction
2. „**Review manual inspection of bridges. Indicative A.1.6.2./T5**”, Contract No. 58 / 02.10.2002, Contract Director Prof.dr.ing. Viorel Gabriela, Bucharest Beneficiary CESTRIN

## Significant results

### Articles in ISI rated journals, in the past 5 years:

1. Șt. I. GUȚIU, P. MOGA, Alexandra DANCIU, C. MOGA: Lateral torsional buckling resistance of steel plate girder according to Euronorms, SpringerVieweg, ISBN 978-3-658-03713-0, DOI 10.100/978-3-658-03714-7, p. 395-406
2. Șt. I. GUȚIU, C. MOGA, Alexandra DANCIU, Composite steel concrete trusses for railway bridge superstructures, 14th GeoConference on Nano, Bio and Green – Technologies for a Sustainable Future, SGEM 17-26 june, 2014, Bulgaria, Conference Proceedings, Volume II, Green buildings technologies and materials; Green design and sustainable architecture, ISBN 978-619-7105-21-6, ISSN 1314-2704, DOI:10.5593/sgem2014B62, pp 73-80.
3. C. MOGA, Șt. I. GUȚIU, Alexandra DANCIU, Influence of cross-sectional shape on the values of the critical buckling force, 14th GeoConference on Nano, Bio and Green – Technologies for a Sustainable Future, SGEM 17-26 june, 2014, Bulgaria, Conference Proceedings, Volume II, Green buildings technologies and materials; Green design and sustainable architecture, ISBN 978-619-7105-21-6, ISSN 1314-2704, DOI:10.5593/sgem2014B62, pp 219-226.
4. C. MOGA, Șt. I. GUȚIU, Alexandra DANCIU, Shear stresses transfer at the steel-concrete interface in circular concrete filled steel tubes, 14th GeoConference on Nano, Bio and Green – Technologies for a Sustainable Future, SGEM 17-26 june, 2014, Bulgaria, Conference Proceedings, Volume II, Green buildings technologies and materials; Green design and sustainable architecture, ISBN 978-619-7105-21-6, ISSN 1314-2704, DOI:10.5593/sgem2014B62, pp613-620.
5. P. MOGA, C. MOGA, Șt. I. GUȚIU, Cristina CÂMPIAN: Design of axial compression members according to European codes, Taylor&Francis/Balkema, Great Britain, ISBN 10: 0-415-40817-2, ISBN 13:978-0-415-40817-2, p. 315-322, ISI Web of Knowledge, <http://pcs.isiknowledge.com/>
6. V. PĂCURAR, C. MOGA, Șt. I. GUȚIU, Cristina CÂMPIAN: Design of composite columns in accordance with Eurocode 4, Taylor&Francis/Balkema, Great Britain, ISBN 10: 0-415-40817-2, ISBN 13:978-0-415-40817-2, p. 419-424, ISI Web of Knowledge, <http://pcs.isiknowledge.com/>
7. P. MOGA, Șt. I. GUȚIU: Stability in bending and axial compression of members with mono-symmetric cross section. Acta Technica Napocensis, Section Civil Engineering-Architecture no. 52, 2009, ISSN 1221-5848, p.95-104
8. Șt. I. GUȚIU, P., MOGA, G. KOLLO: Compression resistance of stiffened box section members, 7th International Conference on Bridges across the Danube 2010, Sofia, Bulgaria, 14-16 oct 2010, Color Studio, Sofia, ISBN 978-954-724-014-4, p. 93-102
9. Șt. I. GUȚIU, P., MOGA, G. KOLLO: Composite steel – concrete girders. Romanian norms-Eurocodes, 6th International Conference on Bridges across the Danube 2007, Budapest, Hungary, sept. 2007, ISBN 978 963 420 925 6, p. 73-80
10. Șt. I. GUȚIU, T. ORGHIDAN, C. MOGA, Truss upper chord stability of the trough steel bridges, 5th International Conference of Bridges across the Danube 2004 "Bridges in Danube Basin", Novi Sad, 24-26 june, 2004, ISBN 86-905637-2-5, p. 45-54
11. P. MOGA, T. ORGHIDAN, Șt. I. GUȚIU, Compression members design according to Romanian Norms and Eurocode 3, 5th International Conference of Bridges across the Danube 2004 "Bridges in Danube Basin", Novi Sad, 24-26 june, 2004, ISBN 86-905637-2-5, p.55-64.

### The offer addressed to the economic environment

Research & development	Design, technical expertise and rehabilitation of composite, steel, concrete and timber bridges; Design of steel members with class 4 cross-section;  Study of the behavior of corrugated webs;  Finite element modeling of slender and composite bridges.
Consulting	Design, technical expertise and erecting of bridges.
Training	Usage of modern software for computer aided design (CAD).  Usage of software for numerical simulations (FEA).