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| CONTACT<br>INFORMATION              | Faculty of Physics,<br>West University of Timisoara,<br>Bd. Vasile Parvan 4, RO-300223 Timișoara   | +40 256 592 108<br><br>robert.blaga@e-uvvt.ro |
| RESEARCH<br>INTERESTS               | <ul style="list-style-type: none"> <li>• <b>Relativistic Lattice Boltzmann:</b> <ul style="list-style-type: none"> <li>- Quadrature-based lattice Boltzmann models for relativistic flows on curved spacetimes</li> </ul> </li> <li>• <b>Quantum field theory on curved spaces:</b> <ul style="list-style-type: none"> <li>- Radiative transitions and scattering in de Sitter space.</li> </ul> </li> <li>• <b>Solar radiation modelling:</b> <ul style="list-style-type: none"> <li>- Modelling global and diffuse solar irradiance.</li> </ul> </li> </ul>  |   |
| EDUCATION                           | <p><b>West University of Timișoara, Romania</b></p> <p>Ph.D., Quantum field theory on curved spaces, October 2013–October 2016 (expected)</p> <ul style="list-style-type: none"> <li>• Thesis Topic: <i>Radiative transitions in de Sitter space</i></li> <li>• Supervisor: prof. Ion I. Cotaescu (ion.cotaescu@e-uvvt.ro)</li> </ul> <p>M.Sc., Quantum fields and elementary processes, October 2011–July 2013</p> <ul style="list-style-type: none"> <li>• Thesis: <i>Response of an inertial particle detector in a Wormhole spacetime</i></li> <li>• Supervisor: dr. Nistor Nicolaevici (nnicolaevici@gmail.com)</li> </ul> <p>B.Sc., Gravitational physics, October 2008–July 2011</p> <ul style="list-style-type: none"> <li>• Thesis: <i>The Randall-Sundrum model (a review)</i></li> <li>• Supervisor: dr. Nistor Nicolaevici (nnicolaevici@gmail.com)</li> </ul> |   |
| RESEARCH<br>EXPERIENCE              | <p><b>Ph.D program</b> August 2014–October 2015</p> <p>Faculty of Physics, West University of Timișoara</p> <p>Project: <i>Doctoral and Postdoctoral programs support for increased competitiveness in Exact Sciences</i> (POSDRU/159/1.5/S/137750)</p> <p>Project coordonator: Daniel Vizman (daniel.vizman@e-uvvt.ro)</p> <p><b>Research Assistant</b> October 2015–October 2017</p> <p>Faculty of Physics, West University of Timișoara</p> <p>Project: <i>Lattice Boltzmann models for the simulation of flows of rarefied gases in the relativistic regime</i> (Young Teams Research Project PN-II-RU-TE-2014-4-2910)</p> <p>Project coordonator: Victor E. Ambrus (victor.ambrus@e-uvvt.ro)</p>  |   |
| REFEREED<br>JOURNAL<br>PUBLICATIONS | <ul style="list-style-type: none"> <li>• Robert Blaga<br/><i>Radiation of inertial scalar particles in de Sitter universe</i><br/>Mod. Phys. Lett. A <b>30</b>, (2015), doi:10.1142/S0217732315500625</li> <li>• Robert Blaga<br/><i>Quantum radiation from an inertial scalar charge evolving in the de Sitter universe: Weak-field limit</i><br/>AIP Conf. Proc. <b>1694</b>, (2015), doi:10.1063/1.4937244</li> </ul>   |   |

- Robert Blaga  
*One-photon pair production on the expanding de Sitter spacetime*  
Phys. Rev. D **92**, (2015), doi:10.1103/PhysRevD.92.084054
- Robert Blaga and Sergiu Busuioc  
*Quantum corrections to Larmor radiation in de Sitter spacetime*  
Eur. Phys. J. C **76** (2016), doi:10.1140/epjc
- Eugenia Paulescu and Robert Blaga  
*Regression models for hourly diffuse solar radiation*  
Sol. Energy **125**, (2016), doi:10.1016/j.solener.2015.11.044
- Nicoleta Stefu, Marius Paulescu, Robert Blaga, Delia Calinoiu, Nicolina Pop, Remus Boata, Eugenia Paulescu  
*A theoretical framework for Angström equation. Its virtues and liabilities in solar energy estimation*  
Energy Convers. Manage. **112**, (2016), doi:10.1016/j.enconman.2016.01.021
- Victor Ambrus and Robert Blaga  
*Relativistic Rotating Boltzmann Gas Using the Tetrad Formalism*  
Annals of West University of Timisoara - Physics **58**, (2016), doi:10.1515/awutp-2015-0211
- Robert Blaga and Victor Ambrus  
*Quadrature-based Lattice Boltzmann Model for Relativistic Flows*  
AIP conference proceedings

CONFERENCE  
ATTENDANCE

- TIM12 Physics Conference, 27-29 November 2012, Timisoara, Romania
- TIM14 Physics Conference - Physics Without Frontiers, 20-22 November 2014, Timisoara, Romania
- Gravity @ all scales, Nottingham, 24-28 Aug. 2015,
- TIM15-16 Physics Conference, 26-28 May 2016, Timisoara, Romania
- THE JOINT MEETING ON QUANTUM FIELDS AND NONLINEAR PHENOMENA, 9-13 March 2016, Sinaia, Romania
- "Lattice Boltzmann 2016" - Workshop, University of Rome "Tor Vergata", 9-10 June, 2016
- HPC Leap School "HPC Applications to Turbulence and Complex Flows", 10-14 October 2016, Rome, Italy

SUMMER SCHOOLS

- 7th MATHEMATICAL PHYSICS MEETING: Summer School and Conference on Modern Mathematical Physics, Belgrade, Serbia, 9 - 19 September 2012

TEACHING  
EXPERIENCE

- Numerical Methods in Quantum Mechanics (assistant): 2013-2014, 2014-2015, 2015-2016

SOFTWARE SKILLS

- Mathematical software: Mathematica, Maple
- Statistical software: R, Excel

LANGUAGES

Romanian (native), Hungarian (native), English (fluent), German (advanced).