

**Publication List**  
**Assoc. Prof. Radu Danescu, PhD**

a) – Publications part of the habilitation thesis

1. **R. Danescu**, F. Oniga, S. Nedevschi, “Modeling and Tracking the Driving Environment with a Particle Based Occupancy Grid”, *IEEE Transactions on Intelligent Transportation Systems*, vol. 12, No. 4, December 2011, pp. 1331-1342.
2. **R. Danescu**, C. Pantilie, F. Oniga, S. Nedevschi, “Particle Grid Tracking System for Stereovision Based Obstacle Perception in Driving Environments”, *IEEE Intelligent Transportation Systems Magazine*, vol. 4, No. 1, March 2012, pp. 6-20.
3. **R. Danescu**, F. Oniga, S. Nedevschi, “Particle Grid Tracking System for Stereovision Based Environment Perception”, in Proc. of the *IEEE Intelligent Vehicles Symposium (IEEE-IV 2010)*, June 2010, San Diego, USA, pp. 987-992.
4. **R. Danescu**, “Obstacle Detection Using Dynamic Particle-Based Occupancy Grids”, *International Conference on Digital Image Computing: Techniques and Applications 2011 (DICTA 2011)*, pp. 585-590.
5. **R. Danescu**, S. Nedevschi, “A Particle-Based Solution for Modeling and Tracking Dynamic Digital Elevation Maps”, *IEEE Transactions on Intelligent Transportation Systems*, in print, DOI 10.1109/TITS.2013.2291447.
6. **R. Danescu**, S. Nedevschi, “A Flexible Solution for Modeling and Tracking Generic Dynamic 3D Environments”, in Proc. of the *IEEE Intelligent Transportation Systems Conference 2013 (IEEE-ITSC 2013)*, October 2013, The Hague, The Netherlands, pp. 1686-1692.
7. **R. Danescu**, F. Oniga, V. Turcu, O. Cristea, “Long Baseline Stereovision for Automatic Detection and Ranging of Moving Objects in the Night Sky”, *Sensors*, vol. 12, No. 10, October 2012, pp. 12940-12963.
8. **R. Danescu**, A. Ciuarte, V. Turcu, "A Low Cost Automatic Detection and Ranging System for Space Surveillance in the Medium Earth Orbit Region and Beyond", *Sensors*, vol. 14, No. 2, February 2014, pp. 2703-2731.
9. O. Cristea, P. Dolea, V. Turcu, **R. Danescu**, “Long baseline stereoscopic imager for close to Earth objects range measurements”, *Acta Astronautica*, vol. 90, No. 1, September 2013, pp. 41–48.
10. F. Oniga, M. Miron, **R. Danescu**, S. Nedevschi, “Automatic Recognition of Low Earth Orbit Objects From Image Sequences”, *International Conference on Intelligent Computer Communication and Processing*, Cluj-Napoca, 2011, pp. 335–338.

b) – Doctoral thesis

„Real Time Computer Vision Techniques Based on Probabilistic Estimation”,  
conducător științific: Prof. Dr. Eng. Sergiu Nedevschi.

Public defense: 12 December 2009.

## c) – Books and book chapters

### **BOOKS**

1. Sergiu Nedevschi, Tiberiu Marița, **Radu Dănescu**, Florin Oniga, Raluca Brehar, Ionel Giosan, Cristian Vicaș, „Procesarea Imaginilor: Îndrumător de laborator”, ISBN 978-973-662-796-5, editura U.T. Press, Cluj-Napoca, 2013.
2. S. Nedevschi, **R. Dănescu**, F. Oniga, T. Marița, Tehnici de viziune artificială aplicate în conducerea automată a autovehiculelor, Editura U.T. Press, Cluj-Napoca, 2012, ISBN 978-973-662-787-3.

### **BOOK CHAPTERS**

1. S. Nedevschi, **R. Danescu**, T. Marita, F. Oniga, C. Pocol, S. Bota, M-M. Meinecke, M. A. Obojski, “Stereovision-Based Sensor for Intersection Assistance”, book chapter in Advanced Microsystems for Automotive Applications, April 2009, Springer, ISBN 978-3-642-00744-6, pp. 129-163.
2. S. Nedevschi, **R. Danescu**, T. Marita, F. Oniga, C. Pocol, S. Bota and C. Vancea, “A Sensor for Urban Driving Assistance Systems Based on Dense Stereovision”, book chapter in “Stereo Vision” editor A. Bhatti, published by InTech Education and Publishing ,Vienna, November 2008, ISBN 978-953-7619-22-0, pp. 235-258.

## d) – Journal Articles

1. **R. Danescu**, A. Ciurte, V. Turcu, "A Low Cost Automatic Detection and Ranging System for Space Surveillance in the Medium Earth Orbit Region and Beyond", Sensors, vol. 14, No. 2, February 2014, pp. 2703-2731.
2. **R. Danescu**, S. Nedevschi, “A Particle-Based Solution for Modeling and Tracking Dynamic Digital Elevation Maps”, IEEE Transactions on Intelligent Transportation Systems, accepted 2013, in print, DOI 10.1109/TITS.2013.2291447.
3. V. Popescu, S. Nedevschi, **R. Danescu**, T. Marita, “A Lane Assessment Method Using Visual Information Based on a Dynamic Bayesian Network”, Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, in print, DOI: 10.1080/15472450.2013.856724.
4. D. Borza, A. S. Darabant, **R. Danescu**, “Eyeglasses Lens Contour Extraction from Facial Images Using an Efficient Shape Description”, Sensors, vol. 13, No. 10, October 2013, pp. 13638-13658.
5. S. Nedevschi, V. Popescu, **R. Danescu**, T. Marita, F. Oniga, “Accurate Ego-Vehicle Global Localization at Intersections Through Alignment of Visual Data With Digital Map”, IEEE Transactions on Intelligent Transportation Systems, vol. 14, No. 2, June 2013, pp. 673-687.
6. O. Cristea, P. Dolea, V. Turcu, **R. Danescu**, “Long baseline stereoscopic imager for close to Earth objects range measurements”, Acta Astronautica, vol. 90, No. 1, September 2013, pp. 41–48.
7. **R. Danescu**, F. Oniga, V. Turcu, O. Cristea, “Long Baseline Stereovision for Automatic Detection and Ranging of Moving Objects in the Night Sky”, Sensors, vol. 12, No. 10, October 2012, pp. 12940-12963.

8. **R. Danescu**, C. Pantilie, F. Oniga, S. Nedevschi, "Particle Grid Tracking System for Stereovision Based Obstacle Perception in Driving Environments", IEEE Intelligent Transportation Systems Magazine, vol. 4, No. 1, March 2012, pp. 6-20.
9. **R. Danescu**, F. Oniga, S. Nedevschi, "Modeling and Tracking the Driving Environment with a Particle Based Occupancy Grid", IEEE Transactions on Intelligent Transportation Systems, vol. 12, No. 4, December 2011, pp. 1331-1342.
10. **R. Danescu**, S. Nedevschi, "Probabilistic Lane Tracking in Difficult Road Scenarios Using Stereovision", IEEE Transactions on Intelligent Transportation Systems, vol. 10, No. 2, June 2009, pp. 272-282.
11. S. Nedevschi, T. Marita, M. Vaida, **R. Danescu**, D. Frentiu, F. Oniga, C. Pocol, "Camera Calibration Method for Stereo Measurements", Journal of Control Engineering and Applied Informatics (CEAI), vol. 4, No. 2, 2002, pp. 21-28.

### e) – Conference Papers

1. A. Ciurte, **R. Danescu**, "Automatic Detection of MEO Satellite Streaks from Single Long Exposure Astronomic Images", 9th International Conference on Computer Vision Theory and Applications 2014 (VISAPP 2014), Lisbon, Portugal, 5-8 January 2014, Proceedings vol. 1.
2. A. Vatavu, **R. Danescu**, S. Nedevschi, "Tracking Multiple Objects in Traffic Scenarios using Free-Form Obstacle Delimiters and Particle Filters", in Proc. of the IEEE Intelligent Transportation Systems Conference 2013 (IEEE-ITSC 2013), October 2013, The Hague, The Netherlands, pp. 1346-1351.
3. **R. Danescu**, S. Nedevschi, "A Flexible Solution for Modeling and Tracking Generic Dynamic 3D Environments", in Proc. of the IEEE Intelligent Transportation Systems Conference 2013 (IEEE-ITSC 2013), October 2013, The Hague, The Netherlands, pp. 1686-1692.
4. V. Popescu, **R. Danescu**, S. Nedevschi, "On-road position estimation by probabilistic integration of visual cues", IEEE Intelligent Vehicles Symposium, 2012, pp. 583-589.
5. A. Vatavu, **R. Danescu**, S. Nedevschi, "Real-time dynamic environment perception in driving scenarios using difference fronts", IEEE Intelligent Vehicles Symposium, 2012, pp. 717-722.
6. **R. Danescu**, "Obstacle Detection Using Dynamic Particle-Based Occupancy Grids", International Conference on Digital Image Computing: Techniques and Applications 2011 (DICTA 2011), pp. 585-590.
7. **R. Danescu**, S. Nedevschi, "New Results in Stereovision-Based Lane Tracking", IEEE Intelligent Vehicles Symposium, 2011, pp. 230-235.
8. **R. Danescu**, F. Oniga, S. Nedevschi, "Particle Grid Tracking System for Stereovision Based Environment Perception", IEEE Intelligent Vehicles Symposium, 2010, pp. 987-992, ISBN: 978-1-4244-7868-2.
9. **R. Danescu**, S. Nedevschi, "Detection and Classification of Painted Road Objects for Intersection Assistance Applications", IEEE Intelligent Transportation System Conference, 2010, pp. 433-438, ISBN: 978-1-4244-7658-9.
10. S. Nedevschi, V. Popescu, T. Marita, **R. Danescu**, Marc Michael Meinecke, Marian Andrzej Obojski, Joern Knaup, "Intersection Representation Enhancement by Sensorial Data and Digital Map Alignment", IEEE Intelligent Computer Communication and Processing, 2010, pp. 393-400, ISBN: 978-1-4244-8229-0.

11. F. Oniga, **R. Danescu**, S. Nedevschi, "Mixed Road Surface Model for Driving Assistance Systems", IEEE Intelligent Computer Communication and Processing, 2010, pp. 185-190, ISBN: 978-1-4244-8229-0.
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13. **R. Danescu**, F. Oniga, S. Nedevschi, M-M. Meinecke, "Tracking Multiple Objects Using Particle Filters and Digital Elevation Maps", in proc of IEEE Intelligent Vehicle Symposium 2009 (IEEE-IV 2009), pp. 88-93.
14. **R. Danescu**, D. Lebu, F. Oniga, S. Nedevschi, M.-M. Meinecke, "A Flexible Solution for Detection and Tracking of Multiple Objects", in proc of IEEE International Conference on Intelligent Computer Communication and Processing 2009 (ICCP 2009), pp. 165-168.
15. S. Nedevschi, T. Marita, **R. Danescu**, F. Oniga, S. Bota, "On-board Stereo Sensor for Intersection Driving Assistance. Architecture and Specification", in proc of IEEE International Conference on Intelligent Computer Communication and Processing 2009 (ICCP 2009), pp. 409-416.
16. F. Oniga, S. Nedevschi, **R. Danescu**, M.-M. Meinecke, "Global Map Building Based on Occupancy Grids Detected from Dense Stereo in Urban Environments", in proc of IEEE International Conference on Intelligent Computer Communication and Processing 2009 (IEEE-ICCP 2009), pp. 111-117.
17. **R. Danescu**, S. Nedevschi, M. M. Meinecke, T. B. To, "A Stereovision-Based Probabilistic Lane Tracker for Difficult Road Scenarios", in proc of IEEE Intelligent Vehicles Symposium 2008 (IV2008), pp. 536-541.
18. **R. Danescu**, S. Nedevschi, "Adaptive and Robust Road Tracking System Based on Stereovision and Particle Filtering", in proc. of IEEE International Conference on Intelligent Computer Communication and Processing 2008 (ICCP 2008), pp. 67-73.
19. S. Nedevschi, **R. Danescu**, T. Marita, F. Oniga, C. Pocol, S. Sobol, C. Tomiuc, C. Vancea, M.M. Meinecke, T. Graf, T. B. To, M.A. Obojski, "A Sensor for Urban Driving Assistance Systems Based on Dense Stereovision", in proc of IEEE Intelligent Vehicles Symposium 2007 (IEEE-IV 2007), pp. 276-283.
20. **R. Danescu**, S. Nedevschi, T. B. To, "A Stereovision-Based Lane Detector for Marked and Non-Marked Urban Roads", in proc of IEEE 3-rd International Conference on Intelligent Computer Communication and Processing 2007 (IEEE-ICCP 2007), pp. 81-88.
21. **R. Danescu**, S. Nedevschi, M.M. Meinecke, T.B. To, "Lane Geometry Estimation in Urban Environments Using a Stereovision System", in proc of IEEE Intelligent Transportation Systems Conference 2007 (ITSC 2007), pp. 271-276.
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23. S. Nedevschi, F. Oniga, **R. Danescu**, T. Graf, R. Schmidt, "Increased Accuracy Stereo Approach for 3D Lane Detection", in proc of IEEE Intelligent Vehicles Symposium 2006 (IEEE-IV 2006), pp. 42-49.
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25. **R. Danescu**, S. Sobol, S. Nedevschi, T. Graf, "Stereovision-Based Side Lane and Guardrail Detection", in proc of IEEE Intelligent Transportation Systems Conference 2006 (ITSC 2006), pp. 1156-1161.

26. S. Nedevschi, **R. Danescu**, T. Marita, F. Oniga, C. Pocol, S. Sobol, T. Graf, R. Schmidt, "Driving Environment Perception Using Stereovision", in proc of IEEE Intelligent Vehicles Symposium 2005 (IEEE-IV2005), pp.331-336.
27. S. Nedevschi, R.Schmidt, T. Graf, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "3D Lane Detection System Based on Stereovision", in proc of IEEE Intelligent Transportation Systems Conference 2004 (IEEE-ITSC 2004), pp. 161-166.
28. S. Nedevschi, R. Schmidt, T. Graf, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "High Accuracy Stereo Vision System for Far Distance Obstacle Detection", in proc of IEEE Intelligent Vehicles Symposium 2004 (IEEE-IV 2004), pp.161-166.
29. S. Nedevschi, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol , "Spatial Grouping of 3D Points from Multiple Stereovision Sensors", in proc of IEEE International Conference on Networking, Sensing and Control (ICNSC) 2004, pp. 874-879.
30. S. Nedevschi, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol, Thorsten Graf, Rolf Schmidt, "High Accuracy Stereovision Approach for Obstacle Detection on Non-Planar Roads", IEEE Intelligent Engineering Systems 2004 (IEEE-INES 2004), pp. 211-216.
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32. S. Nedevschi, **R. Danescu**, C. Pocol, M. M. Meinecke, "Stereo Image Processing for ADAS and Pre-Crash Systems", in proc of 5th International Workshop on Intelligent Transportation 2008 (WIT 2008), Hamburg; pp. 55-60.
33. S. Nedevschi, **R. Danescu**, T. Marita, F. Oniga, C. Pocol, "Moving Camera Rotation Estimation Using Horizon Line Features' Motion Field", in proc of 6-th International Carpathian Control Conference, 2005, Lilafured-Miskolc, Hungary, pp.449-454, ISBN 963-661-645-0.
34. S. Nedevschi, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "3D Environment Reconstruction Using Multiple Moving Stereovision Sensors", microCAD International Scientific Conference, Miskolc, Hungary, March 2004, pp. 93-98
35. S. Nedevschi, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "Extraction of Dynamic Traffic Description Using Multiple Stereovision Equipped Vehicles", Proceedings of Computing, Communications and Control Technologies (CCCT'04), Austin, Texas, USA, 15-17 August, 2004, pp. 410-415
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39. **R. Danescu**, S. Nedevschi, "Robust Real-Time Lane Delimiting Features Extraction" , in proc of IEEE 2-nd International Conference on Intelligent Computer Communication and Processing 2006 (IEEE-ICCP 2006), pp. 77-82.

40. S. Nedevschi, **R. Danescu**, D. Frentiu, T. Marita, F. Oniga, C. Pocol , “Dynamic traffic description using stereovision equipped vehicles and ad-hoc wireless networking”, IEEE-TTTC International Conference on Automation, Quality Testing and Robotics, Cluj Napoca, Romania, May, 2004.
41. S. Nedevschi, M. Vaida, T. Marita, **R. Danescu**, D. Frentiu, F. Oniga, C. Pocol, ”Camera Calibration Method for Stereo Measurements”, Proceedings of IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics,(THETA 13), May 23 – 25, 2002, Cluj-Napoca, Romania, pp. 111-118

Cluj-Napoca, 19.05.2014  
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