**Publications**

Zili Li, 7 Oct., 2016

* **Refereed articles:**
1. Molodova M., Oregui M., Núñez A., Li Z\*. and Rolf Dollevoet (2016), Health Condition Monitoring of Insulated Joints based on Axle Box Acceleration Measurements, Engineering Structures 123 (2016) 225 - 235, DOI: 10.1016/j.engstruct.2016.05.018.
2. Wu J., PetrovR. H., NaeimiM., Li Z., Dollevoet R. and Sietsma J. (2016), Laboratory simulation of martensite formation of white etching layer in rail steel, International Journal of Fatigue 91 (2016) 11 – 20, http://dx.doi.org/10.1016/j.ijfatigue.2016.05.016.
3. Molodova M., Oregui M., Núñez A., Li Z\*[[1]](#footnote-1). and Rolf Dollevoet (2016), Health Condition Monitoring of Insulated Joints based on Axle Box Acceleration Measurements, Engineering Structures, Accepted, DOI: 10.1016/j.engstruct.2016.05.018
4. Zhao X., Li Z., and Dollevoet R. (2016), An approach to determine critical size for rolling contact fatigue initiating from surface defects, International Journal of Rail Technology, http://dx.doi.org/10.1080/23248378.2016.1194775
5. Guillermo Idárraga Alarcón, Nico Burgelman, Juan Meza Meza, Alejandro Toro and Zili Li (2016), Power dissipation modeling in wheel/rail contact: effect of friction coefficient and profile quality, Wear, 10.1016/j.wear.2016.04.026.
6. Yang Z., Li Z. and Dollevoet R. (2016), Modelling of non-steady-state transition from single-point to two-point rolling contact, Tribology International. 101 (2016) 152 – 163, DOI: 10.1016/j.triboint.2016.04.023.
7. Li S., Wu J., Petrov R. H., Li Z.\*, Dollevoet R. and Sietsma S. (2016), “Brown Etching Layer”: A Possible New Insight into the Crack Initiation of Rolling Contact Fatigue in Rail Steels?, Engineering Failure Analysis, doi: 10.1016/j.engfailanal.2016.03.019
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9. Oregui M., Li S., Núñez A., Li Z.\*, Carroll R. and Dollevoet R. (2016), Monitoring bolt tightness of rail joints using Axle Box Acceleration Measurements, Structural Control and Health Monitoring, DOI: 10.1002/stc.1848
10. Oregui M., de Man A., Woldekidan M.F., Li Z.\* and Dollevoet R. (2016), Obtaining railpad properties via dynamic mechanical analysis, Journal of Sound and Vibration 363 (2016) 460 - 472, [doi:10.1016/j.jsv.2015.11.009](http://dx.doi.org/10.1016/j.jsv.2015.11.009)
11. Zhao X. and Li Z. (2016), A solution of transient rolling contact with velocity dependent friction by the explicit finite element method, Accepted for publication in Engineering Computations, Vol. 33, Iss.4.
12. Oregui M., Molodova M., Nunez A., Dollevoet R. and Li Z.\* (2015), Experimental investigation into the condition of insulated joints by impact excitation, Experimental Mechanics, Vol. 55, No. 9, pp. 1597-1612, DOI 10.1007/s11340-015-0048-7 (Open Access).
13. Burgelman N., Sichani M.S., Enblom R., Berg M., Li Z.\* and Dollevoet R. (2015), Influence of Wheel-Rail Contact Modelling on Vehicle Dynamic Simulation, Vehicle System Dynamics. DOI: 10.1080/00423114.2015.1039550.
14. Idárraga Alarcón G., Burgelman N., Meza Meza J., Toro A. and Li Z. (2015), The influence of rail lubrication on energy dissipation in the wheel/rail contact: a comparison of simulation results with field measurements, Wear 330-331 (2015) 533-539, DOI: 10.1016/j.wear.2015.01.008
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42. Li Z., Zhao X., Dollevoet R. and Molodova M. (2008). Differential wear and plastic deformation as causes of squat at track local stiffness change combined with other track short defects. Vehicle System Dynamics, Vol. 46, No. S1, pp. 237-246, DOI: 10.1080/00423110801935855
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**Refereed conference Paper and domestic journal papers:**

1. Jamshidi A., Núñez A., Molodova M., Li Z. and Dollevoet R. (2016), Key performance indicators using robust prediction modelling to consider squats in railway infrastructure, in *Proceedings of the Third International Conference on Railway Technology: Research, Development and Maintenance*, J. Pombo, (Editor), Civil-Comp Press, Stirlingshire, United Kingdom, paper 159, 2016. doi:10.4203/ccp.110.159.
2. NaeimiM., LiZ., DollevoetR., WuJ., PetrovR. H. and Sietsma J. (2016), Thermo-mechanical effects in the formation mechanism of rail squats, in *Proceedings of the Third International Conference on Railway Technology: Research, Development and Maintenance*, J. Pombo, (Editor), Civil-Comp Press, Stirlingshire, United Kingdom, paper 252, 2016. doi:10.4203/ccp.110.252.
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5. Burgelman N., Li, Z. and Dollevoet R. (2016), Fast Estimation of the Derailment Risk of a Braking Train in Curves and Turnouts, Int. J. of Heavy Vehicle Systems, Accepted for publication.
6. Su Z, Núñez A., Jamshidi A., Baldi S, Li Z., Dollevoet R. and De Schutter B., Model Predictive Control for Maintenance Operations Planning of Railway Infrastructures, 6th International Conference on Computational Logistics (ICCL’15), September 22‐25, 2015, Delft.
7. Wei Z., Shen C., Li Z. and Dollevoet R. (2015), Modelling of wheel-rail impact-like interaction at crossing panel, Paper ID # 120, in (Editor: Harry Tournay) the Proceedings of the 10th International Conference on Contact Mechanics and Wear of Rail/Wheel Systems (CM2015) (on memory stick), 31 Aug. – 3 Sept., Colorado Springs, Colorado, USA.
8. Guillermo Idárraga Alarcón, Nico Burgelman, Juan Meza Meza, Alejandro Toro and Zili Li (2015), The influence of friction coefficient and wheel/rail profiles on energy dissipation in the wheel/rail contact, Paper ID # 120, in (Editor: Harry Tournay) the Proceedings of the 10th International Conference on Contact Mechanics and Wear of Rail/Wheel Systems (CM2015) (on memory stick), 31 Aug. – 3 Sept., Colorado Springs, Colorado, USA.
9. Yang Z., Li Z. and Dollevoet R. (2015), Numerical study on two-point contact by an explicit integration finite element method – A contribution to the modeling of flange squeal, Paper ID # 58, in (Editor: Harry Tournay) the Proceedings of the 10th International Conference on Contact Mechanics and Wear of Rail/Wheel Systems (CM2015) (on memory stick), 31 Aug. – 3 Sept., Colorado Springs, Colorado, USA.
10. NaeimiM., Li Z., DollevoetR., Wu J., PetrovR.H. and Sietsma J. (2015), Computation of the flash-temperature at the wheel-rail contact using a 3D finite element model and its comparison with analytical methods, Paper ID # 80, in (Editor: Harry Tournay) the Proceedings of the 10th International Conference on Contact Mechanics and Wear of Rail/Wheel Systems (CM2015) (on memory stick), 31 Aug. – 3 Sept., Colorado Springs, Colorado, USA.
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* **Supervised PhD theses as co-promotor[[2]](#footnote-2):**
1. Burgelman N. (2016), The wheel-rail contact problem in vehicle dynamic simulation – Modeling of train-turnout interaction, January 2016, Delft University of Technology.
2. Oregui M. (2015), Vertical railway track dynamics: From measurements to numerical modelling – characteristic frequencies and rail-railpad-sleeper interaction, April, 2015, Delft University of Technology.
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1. Li Z. (1993). Translation of the book by J.J. Kalker, Three Dimensional Elastic Bodies in Rolling Contact (Kluwer Academic Publishers, Dordrecht, 1990), into Chinese, published by the Southwest Jiaotong University Press, Chengdu, China

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1. Li Z. (2009). Squats on railway rails. In Lewis R., Olofsson U. (Eds.), Wheel-rail interface handbook. pp. 409-436, ISBN: 978-1-84569-412-8. Woodhead publishing Limited, Cambridge, UK
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* **Patents:**
1. Li Z. and Rixen D. (2011). Method for detection of a flaw or flaws in a railway track, and a rail vehicle to be used in such a method. Dutch patent number 2007315. International patent application PCT/NL2012/050586. Priority date 29 Aug 2011
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* **Other**

**Recognised engineering utilization:**

1. A measurement system for early detection of squats and other rail short wave defects.
2. Li Z. (2011). A guideline to best practice of squat treatment. Written for and upon honoured invitation by the International Union of Railways (UIC)
3. My PhD work was applied to rail profile optimisation and led to the normalization of an anti head check profile into the European standard profile 54E5 at 1:40, which results in about € 50 million savings per year on maintenance costs for ProRail and makes the railway tracks safer.

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1. \* indicates corresponding author [↑](#footnote-ref-1)
2. In the Netherlands, only full professors can be the promotors/formal supervisors of PhD students/candidates. [↑](#footnote-ref-2)