



**Professor Jaan Lellep**



Figure 1. Simply supported nanobeam

From: Hina Arif and Jaan Lellep, “Buckling of nanobeams and nanorods with cracks”, 13th International Conference of Modern Building Materials, Structures and Techniques, Vilnius, Lithuania, 16-17 May 2019

See:

<https://www.researchgate.net/scientific-contributions/Jaan-Lellep-2161208929>  
[https://www.researchgate.net/profile/Jaan\\_Lellep](https://www.researchgate.net/profile/Jaan_Lellep)

Institute of Mathematics, University of Tartu, Tartu, Estonia

### **Selected Publications:**

- Lellep, J.; Majak, J. On optimal orientation of nonlinear elastic orthotropic materials. *Struct. Optim.* 1997, 14, 116–120
- Lellep J, Puman E. Optimization of conical shells of Mises material. *Struct Multidiscip Optim* 2001;22(2):149-156.
- Lellep J, Hein H. Optimization of clamped plastic shallow shells subjected to initial impulsive loading. *Eng Optim* 2002;34:545–556.
- Lellep J, Torn K, 2004. Plastic response of a circular cylindrical shell to dynamic loadings, *International Journal of Impact Engineering*, Vol. 30, pp. 555-576, Elsevier.
- Lellep, J., and Torn, K., 2005, “Shear and Bending Response of a Rigid-Plastic Beam Subjected to Impulsive Loading,” *Int. J. Impact Eng.*, 31(9), pp. 1081–1105.
- J. Lellep and E. Sakkov, Buckling of stepped composite columns, *Mech. Composite Mater.* 42 (1) (2006) 63–72.
- Lellep J, Puman E. Optimization of inelastic conical shells with cracks. *Struct Multidiscip Optim* 2007;33(3):189-197.
- Lellep, J., and Torn, K., 2007, “Dynamic Plastic Behaviour of Annular Plates With Transverse Shear Effects,” *Int. J. Impact Eng.*, 34(6), pp. 1061–1080.
- J. Lellep and T. Kraav, Optimization of stepped columns under compression, in *Proc. 20th Int. Conf. Continuous Optimization and Knowledge-Based Technologies* L. SakalauskasG. W. WeberE. K. Zavadskas, (Technika, Vilnius, 2008), pp. 273–278.
- J. Lellep and L. Roots, Vibration of stepped cylindrical shells with cracks, in *Proc. 3rd Int. Conf. Eng. Mech. Struct. Eng. Geol.* (WSEAS Press, 2010), pp. 116–121.
- J. Lellep and L. Roots, Vibrations of cylindrical shells with circumferential cracks, *WSEAS Trans. Math.* 9 (9) (2010) 689–699.
- Lellep, J.; Kägo, E. Vibrations of elastic stretched strips with cracks. *Int. J. Mech.* 2011, 5, 27–34
- Lellep J, Polikarpus J (2012) Optimal design of circular plates with internal supports. *WSEAS Trans Math* 11:222–232
- Kägo E., Lellep J., Free Vibrations of Plates on Elastic Foundation, *Procedia Engineering*, 2013, 57, 489 - 496
- J. Lellep and T. Kraav, Buckling of beams and columns with defects, *Int. J. Struct. Stab. Dyn.* 16(8) (2016) 1550048.
- Lellep, J., & Liyvapuu, A. (2016). Natural vibrations of stepped arches. *Agronomy Research*, 14, 821-830.

Lellep, J., & Lenbaum, A. (2018). Free vibrations of stepped nanobeams. *International Journal of Computational Methods and Experimental Measurements*, 6(4), 716-725

Hina Arif and Jaan Lellep, "Buckling of nanobeams and nanorods with cracks", 13th International Conference of Modern Building Materials, Structures and Techniques, Vilnius, Lithuania, 16-17 May 2019