

# Dr.-Ing. Roman Lenner, PE

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## EDUCATION & REGISTRATION

**Universität der Bundeswehr – München, 2014**

Dr.-Ing. (PhD) in Concrete Structures, *Summa Cum Laude*

- Reliability and Assessment of Existing Concrete Bridges
- Karl-Kling Forschungspreis Award for the thesis

**Civil Professional Engineer** registered in California 2010

**Bridge Condition Inspection Certification** by WSDOT and FHA 2010

**University of California – Berkeley, May 2008**

MS in Structural Engineering

**The Citadel, The Military College of South Carolina, May 2007**

BS in Civil Engineering, *Summa Cum Laude*

## EXPERIENCE

*Senior Lecturer: Stellenbosch University, RSA 2014 – present*

- Structural Engineering
- Strength of Materials
- Reliability and Assessment of Bridges

*Scientific Assistant: Universität der Bundeswehr, Germany 2010 – 2013*

- Team of Experts for Military Bridge Assessment
- Various research projects
- Bridge Engineering, Reliability of Structures

*Structural Consultant: BUNG AG, Germany 2010 – present*

- Lohr Bridge over Main - Dynamic Analysis and Design
- Reutherbergtunnel Rettungsstollen - Design and Drawings Review
- Marktheidenfeld Bridge over Main - Dynamic Analysis and Design
- Eppsteiner Tunnel - Design and Drawings Review

*Bridge Design Engineer: David Evans and Associates, USA 2008-2010*

- Seismic Design and Analysis
- Inspection and Non-linear assessment of suspension bridges
- Bridge design and preliminary TS&L

## KEY SKILLS

Concrete Design      FEM      Bridge Design      Tunnel Design

## LANGUAGES

English      German      Czech      Slovak

## PUBLICATIONS

Lenner, R., Sykora, M., **Partial factors for loads due to special vehicles on road bridges**, Engineering Structures, Vol 106: 137-146, 2015.

Lenner, R., Keuser, M., Braml, T., **Challenges in the assessment of existing concrete bridges**, Beton TKS, Vol. 5: 25-29, 2015.

Keuser, M., Goj, K., Lenner, R., **Verstärkung historischer Brücken über den Main unter besonderer Berücksichtigung des Schifffanpralls**, Bautechnik, Vol. 92, Issue 7: 469-478, 2015.

Lenner, R., Keuser, M., Sykora, M., **Safety Concept and Partial Factors for Bridge Assessment and Military Loading**, Advances in Military Technology, Vol. 9, No. 2:5-20, 2014.

Keuser, M., Lenner, R., Niederwald, M.: **Development of Safety Factors for Assessment of Existing Concrete Bridges under Military Loadings**. 10<sup>th</sup> German-Japanese Bridge Symposium, TU München, 2014

Sykora, M., Diamantidis, D., Holicky, M., Lenner, R., Manas, P.: **Risk-Informed Decision Making on Protective Measures for Highway Bridges**. 12<sup>th</sup> International Probabilistic Workshop, 2014.

Sykora, M.; Holicky, M.; Lenner, R.; Manas, P.; **Target Reliability Levels for Existing Bridges Considering Emergency and Crisis Situations**, Advances in Military Technology, Vol. 9, No. 1:45-57, 2014.

Lenner, R.: **Safety Concept and Partial Factors for Military Assessment of Existing Concrete Bridges**, PhD Thesis, Berichte aus dem Konstruktiven Ingenieurbau 14/2, Munich, 2014.

Keuser, M., Hiller, E., Lenner, R.: **Reinforced Concrete Precast Panels as Noise Protection along High Speed Rail Tracks**, Beton- und Stahlbetonbau, Vol. 109, No. 4: 248-256, 2014.

Keuser, M., Lenner, R., Simon S.: **Neubau des Eppsteiner Tunnels – Berechnung für einen hangnahen Eisenbahntunnel**, Baustatik-Baupraxis 12 at TU München, 2014.

Sykora M., Holicky M., Lenner R., Manas P.: **Human Safety Criteria for Existing Bridges Considering Emergency and Crisis Situations**. 20<sup>th</sup> International Conference Engineering Mechanics, 2014.

Lenner, R.; Keuser, M.: **Safety Factors for Well Defined Loading on Bridges**, International Conference on Infrastructure Management, Assessment and Rehabilitation Techniques, Sharja, 2014.

Keuser, M., Meinhard, M., Lenner, R.: **Concept for the protection of bridge cables and external tendons against terrorist attacks**, The Fourth International fib Congress 2014: Improving Performance of Concrete Structures, Mumbai.

Sykora, M.; Holicky, M.; Lenner, R.; Manas, P.; **Optimum target reliability for bridges considering emergency situations**, Proceedings of the 11th International Probabilistic Workshop, Brno 2013.

Lenner, R.; Sykora, M.; Keuser, M.: **Assessment of existing concrete bridges exposed to military loads**, Proceedings of the 11th International Probabilistic Workshop, Brno 2013.

Lenner, R.; Sykora, M.; Keuser, M.: **Partial Factors for Military Loads on Bridges**, International Conference on Military Technologies 2013, Brno,

2013

Lenner, R.; Keuser, M.; Simon, S.: **Tunnel Eppstein – railway tunnel close to a free slope**, International Tunneling Association:12th International Conference “Underground Construction Prague 2013”, Prague, 2013

Lenner, R.; Keuser, M.: **Military Live Load Model for Recalculation of Existing Bridges**, 9th German-Japanese Bridge Symposium, Kyoto, 2012

Keuser, M.; Lenner, R.; Wensauer, R.: **Strengthening of three bridges across the Main River to resist ship impact**, 9th German-Japanese Bridge Symposium, Kyoto, 2012

Lenner, R.; Keuser, M.: **Bridge Reliability and Live Load**, MBAC - Munich Bridge Assessment Conference, München, 2012

Keuser, M.; Lenner, R.; Fuchs, M.: **Retrofitting of structural concrete after damage caused by impact or explosion**, Proceedings of 3<sup>rd</sup> International Conference on Concrete Repair, Rehabilitation and Retrofitting: pp. 1266-1271, Cape Town, 2012

Wensauer, R.; Keuser, M.; Lenner, R.; Keuser, W.: **Upgrading of bridges across rivers to resist ship impact**, Proceedings of 3<sup>rd</sup> International Conference on Concrete Repair, Rehabilitation and Retrofitting: pp. 834-839, Cape Town, 2012

Lenner, R.; Keuser, M.; Braml, T.: **Statistical models for the material parameters of damaged concrete bridges**, Proceedings of 11<sup>th</sup> International Conference on Applications of Statistics and Probability in Civil Engineering: pp.1101-1107, Zürich, 2011

Lenner, R.; Keuser, M.; Heckersbruch, A.; Krüsemann, R.: **Concrete Fiber Reinforcement – Structural Material and Use for Supporting Structure Planning and Physical Protection against Weapons Effects**, ISIEMS14, Seattle, 2011