

## ***Christian Missal***

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### **Senior Consultant**

#### ***Expertise***

Numerical Modeling, Geotechnical Engineering,  
Geomechanics, Constitutive Models

#### ***Education***

Dipl.-Ing. (Civil Engineering), 2005  
Technische Universität Braunschweig, Braunschweig, Germany

#### ***Professional Affiliations***

*Member: German Geotechnical Society*  
*Working Group 1.6 Numerical Systems in Geotechnology*  
*Member: International Society for Rock Mechanics*

#### ***Professional Experience***

2016 – Present

*ITASCA Consultants GmbH, Gelsenkirchen, Germany*  
*Senior Consultant*

2008 – 2016

*Technische Universität Braunschweig, Braunschweig, Germany*  
*Institute for Soil Mechanics and Foundation Engineering*  
*Scientific Assistant*

2007 – 2008

*Technische Universität Braunschweig, Braunschweig, Germany*  
*Institute for Construction Maintenance and Structure*  
*Scientific Assistant*

2005 – 2007

*Kurt Fredrich Spezialtiefbau GmbH, Bremerhaven, Germany*  
*Site Manager for Special Foundation Engineering*

#### ***Project Experience***

*Numerical Analysis and Geotechnical Consulting:* Numerical studies of stability and usability for the infrastructure rooms of Konrad mine (since 2016).

*Development of Constitutive Models:* Implementation of a visco-plastic constitutive model for granular residue salts in *FLAC3D* (since 2016).

*Numerical Analysis:* Comparative studies of rock-mass characteristics and behavior of clay stone in Switzerland (2016).

*Numerical Analysis:* Geomechanical calculations for the phase of open-keeping of the Gorleben mine (2015-2016).

*Numerical Analysis in Rock Salt and Development of Constitutive Models:* Joint project comparison of current constitutive models and modeling procedures on the basis of calculations of the thermo-mechanical behavior and healing of rock salt (2010-2016).