

**Master's thesis (30 ECTS)**

MT\_67

<b>Working title</b>	Ring closure in conventional tunnelling – Current philosophies in the German-speaking regions of Europe
<b>Project objectives</b>	Summary of current philosophies regarding the best moment of a delayed ring closure in conventional tunnelling which are applied in the German-speaking regions of Europe. Differentiation of tunnel drives through different rock mass types, different excavation sequences (top-heading, bench, invert), and support systems with or without yielding elements. The summary shall give an overview of pros and cons of common approaches and name published cases, where these approaches have (not) worked. Full-face excavations are of no interest.
<b>Student has enthusiasm for</b>	conventional tunnelling; tunnelling processes and operations; design of shotcrete liners; stresses and internal forces within shotcrete liners
<b>Requirements on student</b>	Thesis and communication in English (even though most documents to study might be in German); presentation to and discussion with cooperating partners
<b>Start (earliest / latest)</b>	Immediately / April 2021
<b>Project term (min. / max.)</b>	6 months / 8 months
<b>Coop. with external institution</b>	Tokyo Metropolitan University (TMU, Japan)
<b>Possibility of remuneration</b>	no
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