

# ICOLD European Club Symposium, Interlaken

## Workshop Hydraulics of Dams



Date: September 5, 2023, 13 to 15 hours

Location: Kongress Interlaken, Saal Brünig 1-3

Content (Time, lecturer):

### 1) The challenge of river diversion during dam construction (13 to 14 h, A. Schleiss)

- Introduction and challenges
- Selection of design flood and risk assessment
- River diversion methods (integral river diversion; run-off river through construction site; balancing of river and its constriction during construction)
- Main structural elements (intake structures, cofferdams, derivation structures as tunnels, channels and culverts, outlet structures)
- Arrangement and hydraulic design of diversion tunnels
- The challenge of river closure
- Arrangement and design of river balancing
- Erosion protection at diversion tunnel outlets
- Surface protection of cofferdams
- Conclusions

### 2) Low-level outlets (14 to 15 h, R. Boes and B. Hohermuth, VAW, ETH Zürich), draft

Topic
Introduction (purposes, challenges incl. cavitation and gate vibration)
Hydraulic design
- General layout
- Inlet and pressurized tunnel section
- gate chamber, gate types and air vent
- outlet tunnel (layout, shockwaves, air flow pattern, mixture flow depth)
- energy dissipation structures (types generally used below LLO)
Exercise for participants: short application of selected design formulae

RB, 5. Mai 2023