

CURRICULUM VITAE

CARLO RABAIOTTI, PHD

PERSONAL DETAILS

Full Name: Carlo Rabaiotti
Date of birth: 15. 05. 1975
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ACADEMIC BACKGROUND

December 2008 **PhD in geotechnical engineering**, ETH Zurich
Thesis: “Inverse Analysis in Road Geotechnics“
Supervisor: Prof. Dr. Alexander Puzrin

June 2002 **Italian state exam for engineers**

April 2002 **Master in civil engineering**,
Università degli Studi di Parma (I)

ACADEMIC EXPERIENCE

Since August 2002 ETH Zürich, Institute for Geotechnical Engineering

Since November 2014 **Senior scientist, group leader transportation geotechnics**

August 2009 – October 2014 **Lecturer**

March 2005 – December 2008 **Doctoral student**

August 2002 – February 2008 **Teaching assistant**

PROFESSIONAL EXPERIENCE

Since August 2010 Basler & Hofmann, Zurich
Senior project manager

July 2009 – July 2010 Ernst Basler & Partner, Zurich
Project manager

PROFESSIONAL MEMBERSHIPS

- Swiss Geotechnical Association
- International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)

CURRICULUM VITAE

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LECTURER

- Transportation geotechnics
- Constitutive and numerical modelling in the geotechnics

TEACHING ASSISTANT

- Experimental geotechnics
- Geotechnical advanced topics
- Geotechnics 1
- Geotechnics 2
- Geotechnical design 1
- Geotechnical design 2
- Construction in the geotechnics
- Forensic geotechnical engineering

ADVISOR

Supervision of several master thesis and semester master works

REVIEWER

- Journal of Geotechnical and Geoenvironmental Engineering
- Materials and Structures
- Journal of Rheology

INVITED SPEAKER

- Congress of the Swiss steel association 2015
- Congress of the Israeli Society of Civil, Structural and Infrastructural Engineers 2015
- Congress of the Israeli Geotechnical Society 2014
- Congress of the Swiss Geotechnical Society 2013

AWARDS

- Swiss delegate at the XIX European Young Geotechnical Engineers Conference, Győr (H).
- Award for Outstanding paper at the XIX European Young Geotechnical Engineers Conference, Győr (H).

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SELECTION OF MAJOR RESEARCH PROJECTS

“Non-destructive analysis of pavements by means of distributed fibre-optics technology”

ASTRA / VSS Project. Responsible and initiator of the project. The results will be adopted between others for the validation of a new own developed pavement design method.

“Sofortige Freigabe von zementstabilisierten Schichten nach dem Einbau für den Baustellenverkehr”

ASTRA / VSS Project. Responsible for the project. The results will be fundamental for ameliorating the construction techniques and reducing risks of reflective cracking in cement stabilized layers.

„A novel method for evaluating pavement structural condition and residual service life based on inverse analysis”

CTI project. The project allowed the development of a new pavement design method for air-fields that is currently adopted by the Zurich International Airport.

“Inverse Analysis in Road Geotechnics”

ASTRA / VSS Project. The project allowed the development of a testing device (ETH Delta) which is currently adopted by EMPA and Zurich International Airport for testing the condition of pavements

“Unterhalt 2000, Forschungspaket 4: Dauerhafte Beläge”

ASTRA / VSS Project. The last project carried out on the “Rundlauf”, the real scale APT of the ETH Zurich. Responsible for the construction, instrumentation and analysis of the results.

“Beziehung zwischen den Verdichtungswerten AASHTO-Standard und AASHTO-Modified”.

ASTRA / VSS Project. The project delivered fundamental knowledge between others on the behavior of recycled compacted material.

SELECTION OF MAJOR INDUSTRY PROJECTS

Runway 14/32 at Zurich international airport

Investigation of residual service life for proposed rehabilitated pavement. Development of a new finite element based (3D) design method and software implementation. Carried out extensive experimental tests with the own developed in situ testing device ETH Delta on runway 16-34 at Zurich Airport.

Design guide for Zurich international airport

Development of the guideline for pavement design at Zurich airport (Oberbaudimensionierung – Wegweisung, Project leader).

Pavement design of Echo Nord stands at Zurich international airport

Application of the new developed airfield pavement design method.

CURRICULUM VITAE

CARLO RABAIOTTI, PHD

Stands Delta Sud at Zurich international airport

Implementation of fibre optics cables for measuring strains and temperature in the pavement.

High rise building “Vulcano”, Zurich

Foundation and Excavation pit for three high rise buildings, height > 80 m in Zurich, piled raft foundation (Project leader). Advanced design based on extensive 3D finite element modelling. Foundation will be completed in 2016.

Foundation of the new Coop logistics centre in Schafisheim

Largest private construction site in Switzerland, piled raft foundation (Project leader). Advanced design based on extensive 3D finite element modelling. Implementation of innovative fibre optic sensors in the pile and load cells in the columns of the building. Construction completed.

Midtown project, Tel Aviv (IL)

Foundation for two high rise buildings, height >250 m, in Tel Aviv (IL), piled raft foundation (Technical Expert). Advanced design based on extensive 3D finite element modelling. Foundation works completed.

Menora project, Tel Aviv (IL)

Foundation of a new one high rise building, height >200 m in Tel Aviv (IL) raft foundation (Technical Expert). Advanced design based on extensive 3D finite element modelling. Foundation works completed.

Koraln Tunnel (A)

Excavation pit for the intermediate attack of the Koraln Tunnel (longest tunnel in Austria). Secant bored pile wall, discontinuous bored pile walls, nail walls, reinforced earth walls (Project leader). Construction completed in 2015.

Cross Rail Lucerne

Deep test shaft in Lucerne (CH). Responsible for the design of the diaphragm walls, braced excavation with steel struts and jet grouting sealing slab (Project leader). Advanced design based on extensive 3D finite element modelling. The shaft has been built to test the construction techniques for the new cross rail line (Tiefbahnhof Luzern). Construction completed in 2013.

Nuclear Power Station, Leibstadt

Review of structural safety of the proposed complex pile foundation of the new storage facility for low radioactive used machine parts at the Leibstadt nuclear power plant (CH) (Technical Expert, Project leader). Carried out complex 3D dynamic finite element calculations and supervised the construction of the new structure.