

**Personal details:**

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64287 Darmstadt, Germany

**Education:**

**1987 -1989: Higher Technical School (HTS - Bachelor)**

College of Higher Education, Enschede (Hengelo)  
Specialization: Building Engineering  
Date statement: October 1988  
Remark: study not finished because of early transition to TU Delft

**1989 – 1992: Delft University of Technology (Master)**

Delft University of Technology, Delft  
Date of diploma: October 1992  
Faculty: Civil Engineering  
Department: Offshore technology, Structural Engineering  
Title MSc-thesis: A numerical model for plastic failure of concrete slabs

**1993 – 1997: Delft University of Technology (Doctor)**

Delft University of Technology, Delft  
Date of promotion/defence: September 1997  
Faculty: Civil Engineering  
Department: Concrete Structures  
Promotor / Supervisor: prof. dr. ir. J.C. Walraven / prof. dr. ir. K. van Breugel  
Title of PhD-thesis: Simulation of volume changes in hardening cement-based materials

**Employments:**

2014 – Present: Full professor and head of the Institute of Construction and Building Materials at the Technical University of Darmstadt, Darmstadt, Germany.  
2007 - 2014: Associate professor at the Microlab, Department of Materials and Environment, Delft University of Technology, The Netherlands.  
2011 - 2014: Visiting professor at COPPE-UFRJ, Programa de Engenharia Civil, Rio de Janeiro, Brazil.  
2003 - 2007: Assistant Professor, Concrete Structures group, Department of Design and Construction, Delft University of Technology, The Netherlands.  
2002 - 2003: Project Engineer, Heerema Marine Contractors, Leiden, The Netherlands.  
2000 - 2002: Engineering Manager, Innovative Tunnel Method, Rotterdam, The Netherlands.  
1997 - 2000: Project Engineer, Heerema Infrastructure, Rotterdam.  
1997: TNO-Computational mechanics, Delft, The Netherlands  
1992 – 1997: Ph.D-student, Delft University of Technology.

**Short visits abroad:**

2014: 2 month, 2<sup>nd</sup> term visit to University of Salerno (UniSA), Italy, contributing to the European EnCoRe project on the use of recycled materials in concrete.  
2012: 2 month, visit to University of Salerno (UniSA), Italy, contributing to the European EnCoRe project on the use of recycled materials in concrete.  
2011: 1 month, guest professor at University of Michigan, USA, conducting joint research work with prof. dr. W. Hansen from Civil and Environmental Engineering Department.  
2009: 3 month visit to Labein Tecnalia, Nanoc, research centre for nanotechnology on cement-based material, Bilbao, Spain. Working on the EU-CODICE project and initiating new EU initiatives for networks and other potential R&D projects.

2008: 2 month visit to University of Silesia for setting up a new EU network, Poland.  
2006: 4 month visit to University of Silesia for a EU Marie Curie exchange project, Poland.  
1997 – 2006: Many other short visits to universities and laboratories abroad.

### **Specialisms and competences:**

#### *Working area:*

- Monitoring, degradation and materials performance of concrete structures
- Durability design and repair assessments of concrete structures
- Service life assessment, health monitoring and asset management of concrete structures
- Hydration, modeling and early age crack risk assessments of concrete structures
- Explosive spalling of concrete elements
- Self-healing of cement-based materials
- Recycled aggregate concretes
- Sustainable and ecological cement and concrete developments

#### *General competences:*

- Research and project management
- Exploring potential research innovations and/or research opportunities
- Acquisition and initiation of third stream money research projects for clients
- Project development and setting up frameworks for cooperation
- Organizing cooperative research consortia between university and industrial partners
- Managing commercially funded research projects
- Supervising PhD researchers, MSc/BSc students and technicians

### **Work history, with short description of activities performed**

November 2014 – Present

#### **Technical University of Darmstadt**

Chaired professorship, leading and managing the Institute of Construction and Building Materials, including laboratories, on sustainable and durable materials and anchor/connection systems.

Jan 2014 – March 2014

#### **University of Salerno, Italy**

2<sup>nd</sup> term visit: Contributing to the guidelines issue of the EnCoRe project (<http://www.encore-fp7.unisa.it/>) on Environmentally-friendly solutions for Concrete with Recycled and natural components.

May 2012 – June 2012

#### **University of Salerno, Italy**

Contributing in the field of hydration and modeling to the EnCoRe project (<http://www.encore-fp7.unisa.it/>) on Environmentally-friendly solutions for Concrete with Recycled and natural components.

July 2011

#### **University of Michigan, Ann Arbor, USA**

Guest professor at prof W. Hansen, Civil and Environmental Engineering Department of the University of Michigan. Conducting joint research work in the field of hydration and shrinkage modeling and testing.

January 2011 – March 2014

#### **Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brasil**

Visiting professor at the COPPE-UFRJ/Programa de Engenharia Civil, working in the field of hydration modelling, early age cracking, durability and sustainability.

June 2009 – October 2014

#### **Delft University of Technology, Delft, The Netherlands**

Associate professor at the Microlab. Working in the field of Service-life assessment, durability predictions, sustainable construction, hydration, modelling and explosive spalling of concrete structures.

February 2009 – May 2009

#### **Labein, Tecnalia, Research institute for cement-based materials, Bilbao, Spain**

Visiting the Labein institute as part of a running European project and setting up new cooperative European initiatives. Emphasis is on the integration of EU research projects on multi-scale modelling.

July 2008 – January 2009

#### **Delft University of Technology, Delft, The Netherlands**

Associate professor at the Microlab. Mainly working in the field of Asset Management, Service life predictions, sustainable construction and durability concrete structures.

May 2008 – June 2008

#### **Silesian University of Technology (Politechnika Slaska), Gliwice, Poland**

Visiting the Silesian University of Technology in Poland. Main activities in this period were setting up a new European-wide network on "Sustainable Construction in a City Environment".

January 2007 – April 2008

**Delft University of Technology, Delft, The Netherlands**

Appointed associate professor at the Microlab. Working in the field of service life predictions, hydration modelling, early age cracking, fire spalling and repair of concrete elements.

July 2006 – December 2006

**Delft University of Technology, Delft, The Netherlands**

Assistant professor at the Microlab. Working in the field of service life predictions, hydration modelling of cement-based materials and early age cracking of hardening concrete.

February 2006 – June 2006

**Silesian University of Technology (Politechnika Slaska), Gliwice, Poland**

Working as a guest researcher at the Silesian University of Technology. Appointed as part of a EU Marie Curie Fellowship in the field of Exchange of Knowledge on concrete structures and hydration modelling.

October 2002 – January 2006

**Delft University of Technology, Delft, The Netherlands**

Assistant professor at the Department of Design and Construction, Concrete Structures group, Working in the field of mix design, early age cracking of concrete structures and modelling of cement hydration.

January 2002-September 2002

**Heerema Marine Contractors, Leiden, The Netherlands**

Subcontract coordinator, for Deep-water projects in the Gulf of Mexico. The activities concerned coordination, realisation and negotiation of scope-of-works and contracts of project requisites.

April 2000 – December 2002

**Innovative Tunnel building Method (ITM), Zwijndrecht, The Netherlands**

Engineering Manager for the ITM innovative soft-soil tunnelling project. The design team was a group of 12 structural and geotechnical engineers. Activities: project management, R&D, planning, coordination, (sub-)contracting and initiating innovative solutions for specific (concrete) related problems.

September 1997 – May 2000

**Heerema Infrastructure, Rotterdam, The Netherlands**

Project team member for the product development of innovative solutions for settlement-free sub-structures for the Dutch part of the high-speed rail way track (HSL-South). Tender co-ordinator for the settlement-free sub-structure at the THALYS consortium of the HSL-South high-speed railway project.

April 1997 – September 1997

**TNO-Building and Construction, Rijswijk, The Netherlands**

Project engineer at the Division of Computational Mechanics.

**Funded projects and project management (Research-based contracts):**

- 2017 National German project DFG (part of SPP 2020 program): Visualization and micromechanical modeling of the structural change of cyclically stressed high-performance concretes under special consideration of hygric and thermal boundary conditions, 2017-2020 (0.4/3 mil Euro).
- 2014 Co-writer and co-applicant of the H2020 EU-funded project entitled "Sustainability-driven international/intersectoral Partnership for Education and Research on modelling next generation CONCRETE" (SUPERCONCRETE, H2020-MSCA-RISE-2014, n.645704) (0.5 mil Euro).
- 2013 Main applicant and project leader of the NWO project on "Effective Transport Properties of Cementitious Materials" with project number [SH-270-13](#), The project is funding the ability to use supercomputer facilities at surfSARA for the multi-scale analysis of porous materials.
- 2010 Co-applicant of the STW project "Bio-retrofit" which is part of the BioGeoCivil Perspectief Program. Participants, TU Delft, Wageningen University, Value 0.5 M€.
- 2009 Managing Director, Chairman and initiator of the [STW](#)<sup>1</sup> Perspectief Program titled "*Integral Solutions for Sustainable Construction (IS2C)*", The program is on structural health monitoring and is addressing research at the overlapping areas of [Monitoring & Sensing](#), [Degradation Mechanisms](#) and [Materials & Structures](#). The program has a value of 7.4 M€ and comprises 23 PhD positions and 10 man-year of technical assistance. The program is supported by more than 25 companies and several (inter)national universities. Website: [STW IS2C](#) (Dutch/English)
- 2009 Co-project leader: Asset Management Initiative (AMI), The initiative to establish a national platform for asset management in the field of Technology, Process and Information. Value 1 M€. Website: [www.AMI-infra.nl](#) (Dutch).
- 2008 Project leader: IOP-SelfHealing project on "Modelling the Self Healing Potential of Dissoluble Encapsulated Cement Systems", comprising a two-year postdoc position with technical assistance. Project value € 300.000,-. Website IOP [Selfhealing Materials](#): (English).
- 2007 Involvement in the CODICE European project on Computationally driven design of innovative cement-based materials. Total project value 4 M€, [www.codice-project.eu](#) (English).

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<sup>1</sup> STW = Stichting Technische Wetenschappen, resembles the Dutch National Science Foundation

- 2005 Project manager of the STW research project on "Explosive spalling of concrete: Towards a model for fire resistant design of concrete elements". Participation of TU Eindhoven, TNO and 10 companies. The project comprises 3 PhD positions and 12 years of technical support. Project value M€ 1.1. Website: STW [Fire spalling](#) (English).
- 2005 Co-applicant: STW research proposal on "The dormant period of cement hydration" comprising a PhD position with technical assistance. Project value € 300.000,-.
- 2005 Co-applicant: SenterNovem<sup>2</sup> study on "Examining the feasibility of object oriented information management systems for the Construction industry". Project value € 45.000,-.
- 2004 Co-applicant: Feasibility study on "A Virtual Lab for the Construction Industry", being an innovative pilot project for Delft University. Project value € 30.000,-.

**Third stream money activities (Commercial / Consultancy-based contracts):**

*Rheda2000 v.o.f. (a Dutch consortium for railway track construction)*

- 2008 Functionality assessment of a drilled soft-soil tunnel lining in The Netherlands
- 2006 Full-scale frost test for Rheda slab used in the High speed railway track.
- 2006 Quality control evaluation for the embedment of the sleeper blocks in the HSL railway track.
- 2005 Experimental research on sleeper embedment for HSL railway project.
- 2005 Large experimental research on the dynamic response at the gap-joints of the HSL-railway track.
- 2005 Quality control of the sleeper blocks in production sections for the HSL railway track.
- 2004 Settlement tests for full-scale tests carried out by BAM in Schiedam for the HSL railway project
- 2004 Managing the statistical evaluation achieved from HSL full-scale tests as carried out by BAM.
- 2004 Statistical evaluation of an alternative casting method for a super structure of HSL railway track.
- 2003 Experimental research to the settlement of the mix used for the HSL project.
- 2003 Experimental research to the spindle-ability of sleepers in the super structure of the HSL railway.

**Short list of consultancy projects over in the field of inspection of early age behaviour:**

Project name	Work description
Venice Barriers (2005) in, Venice, Italy.	Mix design and service-life assessment for the Venice Barriers project in Italy.
Hayovel Port Breakwater project (2003) in Israel.	Damage assessment and crack risk assessment for Antifer Cubes production process for break water construction.
Vianen bridge in The Netherlands made of ordinary concrete Class C65 (1997).	Crack risk assessment at early ages and hardening shrinkage measurements.
ITM in-situ cast tunnel development project (2001-2002).	Concrete mix design, crack risk assessment at early ages, flow simulations and operation/execution plan.
2 <sup>nd</sup> Stichtse bridge, first bridge made of High Strength concrete (1997).	Crack risk assessment at early ages, reinforcement design graphs, in-situ measurements of temperature and shrinkage
COVRA, building for storage of nuclear power waste (1996), The Netherlands.	Crack risk assessment at early ages, mix design, numerical simulations, TSTM-tests, adiabatic tests.
First office building in of High Strength concrete in The Netherlands (1995).	Crack risk assessment at early ages and numerical simulations on hardening properties.

*Commercial contracts with other companies:*

- 2007 Ballast Nedam / Strukton: Durability study of a submerged tunnel.
- 2005 RWS: TSTM and Creep tests.
- 2005 CONTEC: Maturity research for the slipformpaver mixture.
- 2005 BAM: Experimental research to the influence of rubber powder in concrete.
- 2005 Sintecna, Italy: Mix design versus durability assessment for the Venice Barriers in Italy.
- 2004 Valkenburg: Damage assessment for a ramp to a parking lot.
- 2003 RWS: Executing a crack risk assessment for Regional office in Numansdorp of RWS.
- 2003 CONTEC: Experimental maturity research.
- 2003 Consensor: Experimental research for determining the radiometrical properties of concrete.
- 2003 Delft Cluster: Survey report on the availability of numerical simulation models for prediction of micro- and mesoscopic behaviour of hardening cement-based materials at the cover zone.
- 2003 Delft Cluster: Numerical simulation of shrinkage-induced stresses in the cover zone of high strength concrete elements.
- 2003 Damage assessment for the hardening behaviour for the Hayoval Port Breakwaters project.

**Organization of conferences and symposia:**

- February 2017: Chairman of the institute of construction and building materials 2<sup>nd</sup> mini-symposium on Geopolymers, From raw material to a construction material".
- February 2016: Chairman of the institute of construction and building materials 1<sup>st</sup> mini-symposium on UHPC, with guest speaker Prof Walraven.

<sup>2</sup> SenterNovem is the national foundation for applied industrial relevant research.

- April 2015: Chairman and co-organizer of the [5<sup>th</sup> Annual IS2C Activity](#): Workshop organized April 23 and 24 in Noordwijk aan Zee, The Netherlands.
- November 2014: Co-organizer of the Int. RILEM [SHCC3](#) conference in Dordrecht, The Netherlands.
- June 2014: Co-chair and co-organizer of the ASME – [OMAE 2014](#) special session [11-3](#) on Oilwell Cements Technology, June 9, 2014, San Francisco, USA.
- May 2014: Co-organizer of the 1<sup>st</sup> Int. AMS'14 conference on Ageing of Materials & Structures, organized May 26-28, in Delft, The Netherlands, [www.ams.tudelft.nl](http://www.ams.tudelft.nl).
- April 2014: Chairman and co-organizer of the [4<sup>rd</sup> Annual IS2C Activity](#): Workshop organized April 24 and 25 in Huizen, The Netherlands.
- April 2013: Chairman and co-organizer of the [3<sup>rd</sup> Annual IS2C Activity](#): Workshop organized April 11 and 12 in Vught, The Netherlands.
- April 2012: Chairman and co-organizer of the [2<sup>nd</sup> Annual IS2C Activity](#): Workshop organized April 26 and 27 in Nijkerk, The Netherlands.
- April 2012: Co-organizer of the 2<sup>nd</sup> Int. Conf. on Microstructure related durability of cementitious composites, Amsterdam, April 11-13, 2012, website: <http://microdurability.tudelft.nl>
- December 2011: Co-organizer of the Int. [RILEM SHCC2-Rio](#) conference in Rio de Janeiro, Brazil.
- May 2011: Chairman and co-organizer of the 1<sup>st</sup> Annual IS2C Activity: [IS2C kick-off symposium](#) May 19, in Woerden, The Netherlands, being the official start of the IS2C program.
- March 2011: Co-organizer of the 2<sup>nd</sup> IOP mini-symposium on Self-Healing Materials, Delft.
- March 2010: Chairman of the IOP mini-symposium on Self-Healing Materials, organized in Delft.
- January 2010: Chairman of the 2<sup>nd</sup> International [RILEM Workshop](#) on "Concrete Spalling due to Fire Exposure" in Delft October 5-7, 2011.
- June 2009: Co-organizer of the 2<sup>nd</sup> International Conference on "Service Life Design for Infrastructure" in Delft October 4-6, 2010.
- March 2009: Co-chairman of the 1<sup>st</sup> International RILEM workshop on "Concrete Spalling due to Fire Exposure" organized in September 2009 at the MFPA in Leipzig, Germany, and co-editor of the [conference proceedings](#).
- June 2006: Co-organizer of the first Int. RILEM ConMod conf. concrete modelling, Delft, in 2008.
- November 2005: Chairman of a Master Students Symposium for structural engineering, TU Delft.

#### **Editorial activities:**

- February 2017: Reviewer of the Dutch National Science Foundation for Perspective Programme funding, containing thematic research initiatives of multiple projects.
- May 2014: Co-editor of the [conference proceedings](#) of the 1<sup>st</sup> Int. AMS14 conference, May 26-28 Delft, The Netherlands, ISBN/EAN 978-94-6186-314-0.
- December 2011: Co-editor of the [conference proceedings](#) of the RILEM SHCC2-Rio conference, Rio de Janeiro, Brazil.
- January 2010: Main editor of the [conference proceedings](#) of the 2<sup>nd</sup> RILEM Workshop on "Concrete Spalling due to Fire Exposure" in Delft October 5-7, 2011.
- March 2009: Co-editor of the [conference proceedings](#) of the 1<sup>st</sup> Int. RILEM workshop on "Concrete Spalling due to Fire Exposure" organized at the MFPA in Leipzig, Germany.
- January 2007: Web editor of the Materials and Environment and Microlab website.
- From 2003: Reviewer for STW (Nationals Science Foundation) research proposals.  
Reviewer for Journal Cement and Concrete Composites,  
Reviewer for Journal Materials and Structures  
Reviewer for Journal Construction and Building Materials  
Reviewer for ACI Materials Journal  
Reviewer for Journal Advanced Concrete Technology (Japan)  
Reviewer for Journal for Fire and Materials.  
Reviewer for Nature communications

#### **Technical committees:**

- March 2016: Chairman of the [RILEM TC 270-CIM](#) technical committee on "Benchmarking Chloride Ingress Models on Real-life Case Studies: Theory and Practice".
- June 2014: Member of the [RILEM TC 227 SPF](#) on "Physical Properties and behaviour of High-Performance Concrete at high temperature".
- August 2013: Member of the RILEM Technical Committee [TC CMS](#), on "Thermal cracking of massive concrete structures".
- November 2008: Member of the [RILEM TC-SAP](#) on Super Absorbent Polymer concretes.
- April 2008: Member of the FIB committee for the Model Code on Concrete Models.
- June 2007: Member of the [RILEM TC 227 HPB](#) on "Physical Properties and behaviour of High-Performance Concrete at high temperature".
- February 2005: Member of the RILEM Technical Committee [214-CCD](#) on, Concrete cracking and its relation to durability: Integrating material properties with structural performance.
- September 2003: Member of the RILEM Technical Committee 195 DTD technical committee on "Recommendations for Test Methods for AD and TD of Early Age Concrete" and participating in the Round Robin testing program.
- September 2003: Member of the RILEM Technical Committee 196 ICC technical committee on "Internal Curing of Concrete".

- October 2003: Member of the RILEM 185 ATC technical committee on "Advanced testing methods". Reporter of one chapter and contribution to two chapters of the RILEM TC book.
- 2000: Member of the STW utilisation committee DCT.4010-I on integrated experimental / numerical research of cement-based materials.

#### **Other academic activities:**

- May 2017: Promotor and supervisor of Bas Lottman on "The spalling mechanism of fire exposed concrete", TU Delft, The Netherlands.
- February 2016: Promotor and referent of Dipl.-Ing. A.B.C Gilka-Bötzow with PhD thesis "Betrachtung instationärer zementöser Schaumstrukturen" (Eng. Analysis of instationary cementitious foamstructures), at the Technical University of Darmstadt, Germany.
- January 2016: Member of the promotion committee of Andrija Blagojević, on "The influence of cracks on the durability and service life of reinforced concrete structures in relation to chloride-induced corrosion", TU Delft, The Netherlands.
- November 2015: Member of the promotion committee of Yawar Abbas, on "In-situ measurement of chloride ion concentration in concrete", UTwente, Enschede The Netherlands.
- March 2015: Member of the promotion committee of Marco Pepe, on "A Conceptual Model to Design Recycled Aggregate Concrete for Structural Applications", University of Salerno, Italy.
- December 2014: Member of the promotion committee of Hooman Hoornahad, on "Towards Development of Self-Compacting No-Slump Concrete Mixtures", TU Delft, The Netherlands.
- September 2013: Member of advisory committee of the 3<sup>rd</sup> Int. RILEM workshop on Explosive spalling due to Fire Exposure, Paris.
- August 2013: Member of the scientific committee of the 3<sup>rd</sup> Int. RILEM SLD conference on Service Life Design, Shanghai, China.
- July 2013: Member of the promotion committee of Zhang Qi, on "Microstructure and Deterioration Mechanisms of Portland Cement Paste at Elevated Temperature", TU Delft, The Netherlands.
- January 2013: Invited by prof W. Hansen to become a member of the supervision and promotion committee of Zhichou Liu, PhD student at the University of Michigan, USA. The topic of the PhD work is "Salt Frost Deterioration-Modeling And Mitigation".
- September 2012: Member of the scientific committee of the 3<sup>rd</sup> Int. ICCRRR Conference on Concrete Repair, Rehabilitation and Retrofitting, Cape Town, South Africa.
- May 2012: Invited by Ass Prof E. Martinelli to be supervisor and member of the promotion committee of PhD student Marco Pepe on Recycled Aggregate Concrete, Salerno University, Italy.
- April 2012: Member of the promotion committee of Jie Zhao, on "Fire spalling modelling of high performance concrete", TU Delft, The Netherlands.
- September 2011: Member of the promotion Committee of Van Tuan Nguyen for his Doctoral thesis on, Rice Husk Ash as a Mineral Admixture for Ultra High Performance Concrete, TU Delft.
- February 2011: Co-promotor of H. van der Ham for his PhD-thesis on, Microstructure and Transport Phenomena in Visco-Elastic Modelling of Hardening Cementitious Materials, TU Delft.
- January 2009: Member of the management board of the [Materials & Environment group](#) of TU Delft.
- January 2004: [Hymostruc](#) developer, end responsible and manager of the hydration software, of which a lite version is also downloadable via the internet.
- December 2003: Member of the promotion Committee of G. Ye for his Doctoral thesis on The Microstructure and Permeability of Cementitious Materials, TU Delft.
- April 2003: Member of the promotion Committee of P. Lura for his Doctoral thesis on Autogenous Deformation and Internal Curing of Concrete, TU Delft.
- Feb-May 2003: Expert/reviewer for Industrial Tunnel building Method design phase.
- February 2003: Member of the Scientific Committee for the IG-ICE 2003 Conference on Intelligent Computing in Engineering 2-3 July 2003.

#### **Educational activities:**

- 2016 – present: Chairman and founder of the RILEM EAC course on "Computational methods for Building Physics and Construction Materials". The course is an annual event.
- 2014 - present: Responsible for 10 educational courses belonging to the chair of Construction and Building Materials of the faculty of civil and environmental engineering of the TU Darmstadt. Lecturing the materials courses in the BSc and the MSc program.
- 2008 - present: RILEM EAC MMC course: Organizer, course responsible and teacher of the macro and micro level modelling at the RILEM MMC course. The [MMC](#) course (Multiscale Modelling Course) is an annual event which is, so far, held in Delft 2008, Nanjing 2009, Bilbao 2010, Nanjing 2012, Delft 2013, Beijing 2014 and Darmstadt 2015.
- 2011: Lecturer at the course on "Mecânica e durabilidade dos materiais de construção de baixo impacto ambiental" at the UFRJ in Rio de Janeiro in the field of Durability.
- 2009-2014: Member of the educational board of the Materials & Environment group for quality control of the groups' education.

2008-present: Chairman and lecturer at the hosting International  
2003 - 2008: Lecturing courses on temperature effects and imposed deformations for students and during a study day for Dutch structural engineers.  
Course assistant for CT1061 of Design and project management for Civil Engineers.  
Supervising about 5 PhD-students and 3 MSc-students at a continuous basis.  
Co-examiner for the courses CT5120 and CT5130.  
Coordinator for the case study belonging to the course CT5120.

## International (refereed) journals

- [1]
- [2] Ukrainczyk N, Koenders EAB, Numerical Model for Chloride Ingress in Cement Based Materials: Method of Lines Implementation for Solving Coupled Multi-species Diffusion with Binding, *Computations and Materials in Civil Engineering* 1(3) (2016) 109-119, <http://gspiralpublishing.com/index.php/CMCE/article/view/75/14>.
- [3] Zlopasa, Jure., Norder, Ben., Koenders, Eduard AB., Picken, Stephen J., Rheological investigation of specific interactions in Na Alginate and Na MMT suspension, *Carbohydrate Polymers*, (2016), <http://dx.doi.org/10.1016/j.carbpol.2016.05.055>.
- [4] Dimas Alan Strauss Rambo, Flavio de Andrade Silva, Romildo Dias Toledo Filho, Neven Ukrainczyk, Eddie Koenders, Tensile strength of a calcium-aluminate cementitious composite reinforced with basalt textile in a high-temperature environment, *Cement and Concrete Composites* 70 (2016) 183-193, <http://dx.doi.org/10.1016/j.cemconcomp.2016.04.006>.
- [5] Hoornahad, H. and Koenders, E.A.B., and Breugel, K. van, Towards the development of self-compacting no-slump concrete mixtures, *építőanyag § Journal of Silicate Based and Composite Materials*, pp139-142, Vol. 67, nr 4, 2015/4, <http://dx.doi.org/10.14382/epitoanyag-jsbcm.2015.22>.
- [6] Hoornahad, H. and Koenders, E.A.B., and Breugel, K. van, Wettability of particles and its effect on liquid bridges in wet granular materials, *építőanyag § Journal of Silicate Based and Composite Materials*, pp143-146, Vol. 67, nr 4, 2015/4, <http://dx.doi.org/10.14382/epitoanyag-jsbcm.2015.23>
- [7] E. Martinelli, J. A.O. Barros, G. Etse, L. Ferrara, P. C. Folino, E. A.B. Koenders, R. D. Toledo Filho, The Encore Project: Sustainable Solutions For Cementitious Materials, SP-305—42, SP-305 Durability and Sustainability of Concrete Structures, 2015, Pages: 503, ISBN: 9781942727446.
- [8] M. Pepe, R. Dias Toledo Filho, E. Koenders, E. Martinelli, A Physically-Based Conceptual Approach For Designing RAC Mixtures, SP-305—45, SP-305 Durability and Sustainability of Concrete Structures, 2015, Pages: 503, ISBN: 9781942727446.
- [9] Jure Zlopasa, Ben Norder, Eduard A. B. Koenders and Stephen J. Picken, Origin of Highly Ordered Sodium Alginate/Montmorillonite Bionanocompos, *pubs.acs.org/Macromolecules American Chemical Society*, 2015, 48 (4), pp 1204–1209 DOI: <http://dx.doi.org/10.1021/ma502147m>.
- [10] W. Hansen, Z. Liu, and E.A.B. Koenders, Internal Viscoelastic Modulus Associated with Autogenous Shrinkage in Cementitious Materials, *Journal of Advanced Concrete Technology* Vol. 12, 496-502, November 2014, <http://dx.doi.org/10.3151/jact.12.496>
- [11] J.J. Gaiteroa, J.S. Doladoa, C. Neuenb, F. Heberc and E.A.B. Koenders, 3D Computational Simulation of Calcium Leaching in Cement Matrices, *Materiales de construcción*, Vol. 64, Issue 316, October–December 2014, e035, <http://dx.doi.org/10.3989/mc.2014.08813>.
- [12] E. A. B. Koenders, W. Hansen, N. Ukrainczyk and R. D. Toledo Filho, Modeling Pore Continuity and Durability of Cementitious Sealing Material, *J. Energy Resour. Technol.* 136(4), 042906 (Oct 13, 2014) (11 pages), <http://dx.doi.org/10.1115/1.4028692>.
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