

Curriculum Vitae



Dr.-Ing. Steffen Grünewald

Born : 13 March 1971 in Rheinfelden (D)
Nationality : German
Family : Married, two sons
E-mail : S.Grunewald@tudelft.nl; S.Grunewald@crh-scc.nl
Address : Strandplevier 14, 4617 JN Bergen op Zoom (NL)
Telephone : 0031-(0)15-2784580 (Delft University of Technology)
0031-(0)6-10581314 (Mobile phone)

RESEARCH FOCUS

The integration, optimisation (including sustainability and durability) and modelling of material behaviour, production aspects and structural behaviour of concrete. The optimization and the implementation of high performance concretes like fibre reinforced concrete, self-compacting concrete and ultra-high strength concrete.

OCCUPATIONS (University & Industry)

(20%): **Assistant Professor** (since 3/2005), Department of Design and Construction (Concrete Structures Group, Delft University of Technology (NL), Head until 2012: Professor D.A. Hordijk, before: Professor J.C. Walraven);

(20%): **Post-doctoral researcher** (since 3/2014), Magneel Laboratory for Concrete Research, Ghent University (B), Head: Professor L. Tarwe;

(60%): **Manager Research & Development** (since 1/2014), CRH Europe, Sustainable Concrete Centre Oosterhout (NL)

ACADEMIC EDUCATION

- **10/1992-01/1999**
Civil Engineer (Diplom-Ingenieur), Master study at Darmstadt University of Technology (D);
Main Disciplines: Concrete Structures, Steel Structures, Construction Management;
Master thesis carried out for Ballast Nedam Engineering (Amstelveen, NL);
Title: 'Strengthening of bridge columns in seismic regions by using prefabricated elements'
- **08/1995-07/1996**
Exchange year (European Erasmus Program) at Delft University of Technology (NL),
Completion of University courses and writing of a thesis ('Vertieferarbeit')

- **04/1999-12/2003**
PhD-research and Research Assistant (supervisor: Professor J.C. Walraven), Concrete Structures Group, Delft University of Technology (NL), Research on the design and the optimisation of high-performance concrete.; PhD-thesis 'Performance-based design of self-compacting fibre reinforced concrete'
- **01/2004-02/2005**
Post-doctoral research 'Viscosity agents in self-compacting concrete', Concrete Structures Group, Delft University of Technology (NL)

WORKING EXPERIENCE

IN INDUSTRY

3/2005-04/2013

Head of Quality and Material Department and Environmental Manager (2011-2103), Hurks Prefabbeton (Dutch producer of prefabricated concrete elements), Veldhoven (NL), 0.8 fte

Certification manager for Hurks Prefabbeton

- CE-certification of prefabricated concrete elements and product certification for Benelux, England, France and Germany)
- Set-up, implementation and manager of quality systems according to NEN-EN 1090-1 (Execution of steel structures), NEN-EN-ISO 14001 (Environmental management systems) and BRL 0503 and EN-ISO 17660 (Welding of reinforcing steel)
- Support of a Quality System according to NEN-EN-ISO 9001 (Quality management systems)

6/2013-5/2014

Manager certification and Setup of Quality System 'Welding of steel structures' according to NEN-EN 1090-1, (Freelance work for Hurks Prefabbeton, Veldhoven)

Since 1/2014

Manager Research & Development, CRH Europe

(Project manager, Research funding (NL, B and European Union), Advisor Concrete Technology, Responsible Government Subsidies)

FOR UNIVERSITY

- Supervision of master thesis and PhD-student projects; student assistance
- Publishing of research (>100 scientific publications: PhD-thesis, scientific journal papers, publications in conference proceedings, research reports and a chapter in the book 'Understanding the Rheology of Concrete', publisher Woodhead Publishing)
- Writing of national and European research proposals
- Reviewer for international research funding organisations (Austrian, Belgian, Dutch and Lithuanian Research Foundations)
- Reviewer for eight scientific journals (Cement and Concrete Research, Construction & Building Materials, European Journal of Environmental and Civil Engineering, fib Structural Concrete, KSCE Journal of Civil Engineering, Materials & Structures, International Journal of Concrete Structures and Materials, Tunnelling and Underground Space Technology)
- Member of two PhD-student commissions
- Participation of more than 50 scientific conferences

RESEARCH PROJECTS

- **1999-2002**
Research for Dutch CUR-commission B79 'Self-Compacting Concrete': characteristics in the fresh and the hardened state, Delft University of Technology
- **2001-2004**
European 'Testing SCC'- project (with Delft University of Technology), project manager and task leader of the workgroup on test methods for filling ability
- **2005-2006**
European research project 'Innoconcrete', a project to improve BSI/Ceracem, an Ultra-High Strength Concrete (with Hurks Prefabbeton), research partner
- **Since 2011**
International advisor for the Norwegian-COIN research project
- **Since 2014**
Project manager for CRH: Projects on alternative binders, use of waste materials in concrete, geopolymer concrete, Engineered Cementitious Composites, 3D printing, Special mould systems

COMMISSIONS

- **1999-2002**
Secretary and member of Dutch CUR-commission B79 'Self-Compacting Concrete': characteristics in the fresh and the hardened state
- **Since 2004**
Member of fib (Fédération Internationale du Béton) - Task Group 8.6 'Ultra-High Strength Fibre Reinforced Concrete' (fib TG 8.6)
- **2007-2013**
Member of RILEM-Technical Committee 'Simulation of fresh concrete flow' (TC-SCF)
- **2008-2013**
Member of RILEM-Technical Committee 'Mechanical properties of self-compacting concrete' (TC-MPS)
- **Since 2008**
Chairman of fib-Task Group 'Structural design with flowable concrete' (fib TG 8.8)
- **2011-2013**
Member of work-group 'Sustainability' of Dutch Association of Prefabricated Concrete Element 'BFBN'
- **Since 1/2014**
Member of fib-Task Group 'Performance-based specifications for concrete (fib TG 8.10)

AWARDS

- **'Elkem-Grant'** (2003) for outstanding paper and presentation during the RILEM-conference 'Self-Compacting Concrete' in Reykjavik/Iceland
- **'fib Diploma to Younger Engineers', Winner category 'Research'** (2007), the international award that rewards the best PhD-thesis in the field of concrete and concrete structures
- **Emporis Skyscraper Award 2007**, Residential building 'Het Strijkijzer' in The Hague (NL) with Hurks Prefabbeton
- **Winner Competition Dutch Ministry 'Rijkswaterstaat'** with Hurks Prefabbeton (2009), 'Repair of steel bridges with less effect on traffic'
- **'Dutch Concrete Awards'** (with Hurks Prefabbeton):
Winner 2007: Category 'Execution', 'Tower Woense|, Eindhoven (NL);
Winner 2011: 'Oeuvre Award for Hurks Prefabbeton';
Winner 2013: Category 'Execution', 'Hospital Erasmus MC|, Rotterdam (NL);
Nomination 2005: 'Folly Zonnestraal'
Nomination 2009: 'ATS Windtower'

MODELLING / COMPUTER SIMULATION

- **EXCEL Advanced** (Certificate: TU Delft)
- **Finite Element Method**
COMSOL Multiphysics (COMSOL courses: Intensive course, Fluid dynamics, Transport phenomena, Chemical reaction, Meshing);
DIANA (TNO course: Non-linear analysis of reinforced concrete structures);
ANSYS (Experience with structural analysis and fluid dynamics)
- **Multi-Scale Modelling Course for Concrete** (Certificate: Microlab TU Delft)
- **Mechanics of Fiber Reinforced Cement Based Composites** (Certificate: DTU Lyngby, DK)
- **VISUAL BASIC** (Certificate: TU Delft)

CERTIFICATES

Concrete technology

- **Civil Infrastructure with Fibre Reinforced Plastics** (Certificate: PAO Civiele Techniek en Bouwtechniek, NL)
- **Concrete Specialist** (Certificate: 'Betontechnoloog' - Betonvereniging, NL)
- **Control of Hardening of Concrete Structures**, (Certificate: Betonvereniging, NL)
- **E-Schein 'Concrete Technology'** (Certificate: 'E-Schein', D)
- **Maintenance of Concrete Structures** (Certificate: 'Betononderhoudskondige' - Betonvereniging, NL)
- **Microscopy course, Microlab TU Delft** (Certificate: Microlab, Faculty Civil Engineering and Geosciences, TU Delft, NL)

Quality control / Welding

- **Internal Auditor** (Certificate: Environmental Management Systems NEN-EN-ISO 14001, Kiwa, NL)
- **International Welding Engineer & Laspraktijkingenieur** (Certificate: Lasopleidingen WTT Rotterdam, NL)
- **Organisation and Investigation of Labour** (Certificate: REFA, D)
- **Quality Engineer** (Certificate: Deutsche Gesellschaft für Qualität, D)
- **Schweißaufsichtsperson/Welding of Reinforcement**, DVS-1175 (Certificate: SLV Duisburg, D)
- **Visual Welding Inspector VT-w-2** (Certificate: NEN-EN-ISO 5817/NEN-EN-ISO 10042, Det Norske Veritas, NL)
- **Welding Reinforcing Bars at the Specialist Level**, EWF 544-01 (Certificate: SLV Duisburg, D)

Management

- **Management for Young Engineers** (Certificate: TSM Business School, NL)
- **Management of Large Scale Research Projects** (Certificate: TU Delft, NL)
- **Professional Discussions and Meetings** (Certificate: TU Delft, NL)
- **Quality Control in Process Cycle Management** (Certificate: PCM Group, B)
- **Risk Management for Building Environment and Infrastructure** (Certificate: PAO Civiele Techniek en Bouwtechniek, NL)
- **Successful Functioning in Organisations** (Certificate: Leeuwendaal Advies BV, NL)
- **Technical courses on: Presenting, Technical Writing in English, Student Assistance** (Certificates: TU Delft, NL)

LANGUAGES

- **German** (native language)
- **English** (very good),
- **Dutch** (very good, Certificate: NT2 'Nederlands Staatsexamen')
- **French** (basic knowledge)
- **Croatian** (basic knowledge)

HOBBIES

- **Soccer**
- **Jogging**
- **Travelling**