

LIST OF PUBLICATIONS IN LORCENIS PROJECT

Title	Author	Journal	
Modification of POSS derivatives for reinforcement of bulk concrete	Monika Pilz, Emmanuel Gallucci	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3, pages 28-31.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Enhanced Predictive Modelling of Steel Corrosion in Concrete in Submerged Zone Based on a Dynamic Activation Approach	Zahid Mohammad Mir, Daniel Höche, Celestino Gomes, Rui Sampaio, Alexandre C. Bastos, Philippe Mainçon, M. G. S. Ferreira & Mikhail L. Zheludkevich	International Journal of Concrete Structures and Materials volume 13, Article number: 11 (2019)	
Interoperability architecture for bridging computational tools: application to steel corrosion in concrete	Zahid M Mir, Jesper Friis, Thomas F Hagelien, Ingeborg-Helene Svenum, Inga G Ringdalen, Natalia Konchakova, Mikhail L Zheludkevich and Daniel Höche	Modelling and Simulation in Materials Science and Engineering, Volume 28, Number 2	
Insights from periodic DFT calculations on the structure of, and chloride incursion into, Calcium-Silicate-Hydroxide	I. -H. Svenum, I. G. Ringdalen, F. L. Bleken, and O. Swang	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
An Overview on the Numerical Modelling of "Self-Protection" Processes in Concrete: Application	Zahid Mohammad Mir, Celestino Gomes, Rui Sampaio, Alexandre Bastos, Philippe Mainçon,	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019,	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf

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to Layered Double Hydroxides	Mário Ferreira, Daniel Höche, Mikhail L. Zheludkevich	Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 122-125.	
Providing structural engineers with a tool for the design of concrete coverage	P. Mainçon, J. Psihogios, Z. M. Mir, D. Höche, D. Dragatogiannis	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 118-121.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Effect of submicron admixtures on mechanical and self-healing properties of cement-based composites	Irene Kanellopoulou, Evangelia K. Karaxi, Anna Karatza, Ioannis A. Kartsonakis and Costas A. Charitidis	FFEMS, SPECIAL ISSUE - ENGINEERING AGAINST FAILURE	Open access (OA) (Gold).
Smart admixtures with active functionality in concrete	E.K. Karaxi, I.Kanellopoulou, I.A Kartsonakis, C.A. Charitidis	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 2-5.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Synthesis and processing of melt spun materials from esterified lignin with lactic acid	Panagiotis Goulis, Ioannis A. Kartsonakis, George Konstantopoulos, Costas A. Charitidis	Applied Sciences (by MDPI)	Open access (OA) (Gold).
Constituents Phase Reconstruction through Applied Machine Learning in Nanoindentation Mapping Data of Mortar Surface	Elias P. Koumoulos, Konstantinos Paraskevoudis and Costas A. Charitidis	Journal of Composite Science	Open access (OA) (Gold).

Title	Author	Journal	
Safety and sustainability of new admixtures for durable concrete	N. Al-Ayish, U. Mueller, E.K. Karaxi, I.A. Kartsonakis, C.A. Charitidis, L. De Meyst	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3, pages 143-146.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
On the use of ZnAl layered double hydroxide (LDH) to extend the service life of reinforced concrete	Celestino Gomes, Zahid Mir, R.S. Sampaio, A.C. Bastos, João Tedim, Frederico Maia, Cláudia Rocha, M.G.S. Ferreira*	Front. Mater. - Environmental Materials	
Effect of Layered Double Hydroxides on the Performance and Service Life of Reinforced Concrete	Celestino Gomes, Zahid Mir, Rui Silva Sampaio, A.C. Bastos, Frederico Maia, Cláudia Rocha, João Tedim, M.G.S. Ferreira	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 51.54.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Recent advances on the application of layered double hydroxides in concrete - A review	Zahid M. Mir, Alexandre Bastos, Daniel Höche, Mikhail L. Zheludkevich	Special Issue Materials	
Use of Embedded Chemical Sensors to Monitor the Ingress of Aggressive Agents from the Environment into Concrete	Rui Silva Sampaio, A. C. Bastos, Celestino Gomes, M. G. S. Ferreira	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 178-181.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Durability of concrete infrastructure and the	Jose Vera Agullo	Proceedings of International LORCENIS conference "Durable	https://www.sintef.no/globalassets/project/lorcenis/completed-

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role of smart self-responsiveness admixtures		Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. page 142.	proceedings_version20191025_lorceniswebsite.pdf
Ice abrasion resistance in high performance concrete engineered with smart admixtures	Arezou Babaahmadi, Urs Mueller, Kjell Tore Fossa, Gunnar Moen	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3, pages 152-155.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
PVA-Borax additives for self-protection of concrete at high temperature and thermal fatigue	Javier Puentes (CSIC), Hans Jurgen-Grande (CIDET), Alaitz Rekondo (CIDET), Arrate Huegun (CIDET), Juan A. Alduncin (CIDET), and Maria Cruz Alonso (CSIC)	Materiales de Construcción Journal (IETCC)	
Severe sulfuric acid attack on self-compacting concrete with granulometrically optimized blast-furnace slag - Comparison of different test methods	Sara Irico, Laurence De Meyst, Dirk Qvaeschning, Maria Cruz Alonso, Kristina Villar, Nele De Belie	Materials 2020, 13(6), 1431; https://doi.org/10.3390/ma13061431 (registering DOI)	
Durability evaluation of concrete for high temperature applications under thermal fatigue	J. Puentes, M.C. Alonso, V. Flor-Laguna	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 207-211.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf

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Diseño de mezclas de hormigones autocompactantes con alto contenido de adiciones minerales y áridos de diferente naturaleza para desempeño en ambientes altamente agresivos	J. Puentes, J.L. Garcia Calvo and M.C. Alonso	Proceedings of International V Congreso Iberoamericano de Hormigón Autocompactante y Hormigones Especiales (2018) 177-186. 1	0.4995/hac2018.2018.6324. ISBN: 9788490485910
Investigation on the combined interaction of sulfate and acidic attack on concrete exposed to aggressive environments,	M.C. Alonso, K. Villar, D. Qvaeschning, S. Irico, G. Pérez	Proceedings of International Workshop on External Sulfate Attack Field Aspects and Lab Tests. Edt Springer Int. (2020)33-43.	Doi. 10.1007/978-3-030-20331-3_3, ISBN: 978-3-030-20330-6(print), 978-3-030-2033
Durability of concrete under combined action of leaching and freeze-thaw processes	M. Cruz Alonso Alonso, Kristina Villar Arribas	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 156-160.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Self-Compacted Concrete with Self-Protection and Self-Sensing Functionality for Energy Infrastructures	Alonso M.C. and Puentes J.	Materials 2020, 13, 1106; doi:10.3390/ma13051106 (2020)2-19	
A chitosan based pH responsive hydrogel for encapsulation of bacteria for self-sealing concrete	WANG, J., MIGNON, A., TRENSON, G., VAN VLIERBERGHE, S., BOON, N., DE BELIE, N.	(2018) Cement and concrete composites, 93, 309-322.	

Title	Author	Journal	
Parameter Study of Superabsorbent Polymers (SAPs) for Use in Durable Concrete Structures	Laurence De Meyst, Els Mannekens, Maria Araújo, Didier Snoeck, Kim Van Tittelboom, Sandra Van Vlierberghe and Nele De Belie	Materials 2019, 12(9), 1541; https://doi.org/10.3390/ma12091541	
Impact of Super Absorbent Polymers on Early Age Behavior of Ultra-High Performance Concrete Walls	Judy Kheir, L. De Meyst, J.R. Tenorio Filho, T.A. Hammer, B. Hilloulin, A. Loukili, N. De Belie	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 217-222.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Use of superabsorbent polymers to mitigate autogenous shrinkage in ultra-high performance concrete	Laurence De Meyst, Brenda Debbaut, Maria Araújo, Kim Van Tittelboom, Sandra Van Vlierberghe, Nele De Belie	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 100-105.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Cradle-to-gate life cycle assessment of self-healing engineered cementitious composite with in-house developed (semi-)synthetic superabsorbent polymers	Philip Van den Heede (UGent), Arn Mignon (UGent), Guillaume Habert and Nele De Belie (UGent)	(2018) CEMENT & CONCRETE COMPOSITES. 94. p.166-180	
Multifunctional bulk reinforced-concrete materials to operate	Emmanuel Gallucci	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019,	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf

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under severe conditions		Ghent, Proceedings ISBN: 978-9-463-88638-3. page 42.	
Severe sulphuric acid attack on self-compacting concrete: from the mineralogical characterization to durability properties	Sara Irigoien, Sabine Mutke, Dirk Qvaeschning, Fulvio Canonico, Daniela Gastaldi	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3, pages 90-93.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
Durable concrete for infrastructure with high performance binders	Dirk Qvaeschning, Thomas Deuse, Sara Irigoien	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3, pages 191-195.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
The effect of POSS and SAP additives on self-healing of cracks in concrete for hydropower applications	P. Lundqvist, T. Lilleberg, A. Holmqvist	Proceedings of International LORCENIS conference "Durable Concrete for Infrastructure under Severe Conditions", 10-11 Sep 2019, Ghent, Proceedings ISBN: 978-9-463-88638-3. pages 112-115.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf
The development of SAPs for reducing autogenous shrinkage and accomplishing self-healing and self-sealing properties in concrete	Els Mannekens, Geert Deroover	Proceedings of Conference 'Durable Concrete for Infrastructure under Severe Conditions', Gent, 10-11 September 2019 p. 15 ISBN: 978-9-463-88638-3. pages 15-18.	https://www.sintef.no/globalassets/project/lorcenis/completed-proceedings_version20191025_lorceniswebsite.pdf

Title	Author	Conference/workshop name
LORCENIS - Long Lasting Reinforced Concrete for Energy Infrastructure under Severe Operating Conditions	M. Pilz, D. Höche	Workshop on German-Norwegian Dialogue on Bilateral and European Cooperation: Steps to a better German-Norwegian cooperation in Horizon 2020/EUREKA, arranged by NCP

		coordination (NFR): German-Norwegian Cooperation, 29-30 September 2016, Berlin, Germany
Om LORCENIS prosjektet og muligheter i betong	M. Pilz	Workshop on Smart betong for en grønnere livssyklus, arranged by INDO-nettverk, 8 May 2019, Skogmo, Norway
Kan bruk av smarte tilsetningsstoff øke levetiden for betongkonstruksjoner?	M. Pilz, T.A. Hammer	Norsk Betongdag 2019, Arranged by NB - Norsk Betongforening, 22-24 October 2019, Trondheim, Norway
Functionalized POSS derivatives for novel corrosion protection concepts	M. Pilz, C. Gomes, A. C Bastos, J. Tedim, M.G.S. Ferreira	EuroCORR 2018, arranged by DECHEMA e.V., 9-13 September 2018, Cracow, Poland;
Effect of SAPs on the mechanical integrity and self-healing/sealing properties of bulk reinforced cement	I. Kanellopoulou, E.K. Karaxi, I.A. Kartsonakis, E. Kontou, C.A. Charitidis	18th Concrete Conference organized by the Technical Chamber of Greece by NTUA, 29 -31 March 2018, Eugenides Foundation in Athens, Greece
Corrosion behaviour, self-sensing properties and mechanical integrity of cement reinforced with MWCNTs	E.K. Karaxi, I.A. Kartsonakis, I. Kanellopoulou, A. Karatza, E. Kontou, C.A. Charitidis	18th Concrete Conference organized by the Technical Chamber of Greece by NTUA, 29 -31 March 2018, Eugenides Foundation in Athens, Greece
Hybrid superabsorbent polymer networks based on crosslinked poly(methacrylic acid) encapsulated with SiO ₂ for novel applications	I.A. Kanellopoulou, E.K. Karaxi, A. Karatza, I.A. Kartsonakis, C.A. Charitidis	ICEAF V - 5th International Conference of Engineering Against Failure; 20 June 2018 to 22 June 2018, Chios Island, Greece
Fabrication of carbon nanotubes reinforced mortar specimens: evaluation of mechanical integrity and pressure-sensitive properties	E.K. Karaxi, I.A. Kanellopoulou, A. Karatza, I.A. Kartsonakis, C.A. Charitidis	ICEAF V - 5th International Conference of Engineering Against Failure; 20 June 2018 to 22 June 2018, Chios Island, Greece
Self-sensing capability assessment and corrosion evaluation of multi-walled carbon nanotubes reinforced mortars	E.K. Karaxi, I.A. Kartsonakis, I. Kanellopoulou, C.A. Charitidis	EUROCORR 2018; 9-13 September 2018, Cracow, Poland
Corrosion behaviour, mechanical integrity and self-sensing properties of bulk reinforced concrete	I.A. Kartsonakis, E.K. Karaxi, I. Kanellopoulou, P. Manolis, C.A. Charitidis	Eurocorr 2017, 3-7 September 2017, Prague

Manufactured nanomaterials (MNMs) in the construction industry	E.K. Karaxi, I.Kanellopoulou, I.A Kartsonakis, C.A. Charitidis	EuroNanoForum 2019, June 12-14, 2019, Bucharest, Romania
Contribution to industrial innovation	E.K. Karaxi, I.Kanellopoulou, I.A Kartsonakis, C.A. Charitidis	EuroNanoForum 2019, June 12-14, 2019, Bucharest, Romania
Synthesis, characterization and swelling behavior of superabsorbent polymer composites	I. Kanellopoulou, I.A. Kartsonakis, E.K. Karaxi, E. Koumoulos, C.A. Charitidis	Euromat 2017, 17-22 September 2017, Thessaloniki
Continuum Modelling of Corrosion Processes in Reinforced Concrete at Microscale	Zahid Mohammad Mir, Urs Mueller, Nelson Silva, Philippe Mainçon, Dimitrios A. Dragatogiannis, Ole Swang, Alexandre C. Bastos, Daniel Höche, Mikhail L. Zheludkevich	Eurocorr 2017; 3-7 September 2017 in Prague, Czech Republic
Numerical Modelling of Reinforcement Corrosion in Concrete at Microscale in a Multiscale Framework	Zahid Mohammad Mir, Daniel Höche, Philippe Mainçon, Alexandre C. Bastos, Mikhail L. Zheludkevich	6th European Conference on Computational Mechanics (ECCM 6) 7th European Conference on Computational Fluid Dynamics (ECFD 7); 11 – 15 June 2018, Glasgow, UK
Multiscale modelling of corrosion in reinforced concrete structures - The LORCENIS approach	Daniel Höche, Zahid Mohammad Mir, Ingeborg H. Svenum, Inga Gudem Ringdalen, Ole Swang, Philippe Mainçon, Jesper Friis, Alexandre C. Bastos, Miguel Prieto Rabade, Filip Nilenius, Nelson Dias Ferreira Da Silva, John Psihogios, Athanasios Morozinis, Dimitrios A. Dragatogiannis, Ioannis A. Kartsonakis, Costas Charitidis, Mikhail L. Zheludkevich	2018 eSENCE-Multiscale Modelling Meeting, 11-13 June 2018, Uppsala, Sweden
Selection of Corrosion Inhibitors for Protection of Steel in Reinforced Concrete for Harsh Conditions	José Celestino Gomes, Alexandre Bastos, João Tedim, Mário G. S. Ferreira	NACE Corrosion 2017; March 26-30, 2017, New Orleans, USA
Functionalized POSS derivatives for novel corrosion protection concepts	Celestino Gomes, A.C. Bastos, M. Pilz, J. Tedim, M.G.S. Ferreira	EUROCORR 2018; 9-13 September 2018, Cracow, Poland

Effect of the surface condition on the electrochemical response of steel bars for reinforced concrete	J.C.V. Gomes, A.C. Bastos, J. Tedim. M.G.S. Ferreira	CNMAT2018; 4 - 6 July 2018, Salamanca, Spain
Electrochemical sensors for detection of chloride ions inside concrete	R.S. Sampaio, A.C. Bastos, M.G.S. Ferreira	EMCR2018, Electrochemical Methods in Corrosion Research, Cambridge, UK, 22-27 July 2018
Examples of nanotechnology applied to Civil Infrastructure. Durability assessment.	J. Cubillo, A. Galvez, I. Perez, M. Carmona, J. Rodriguez	ICANM 2017, International Conference & Exhibition on Advanced & Nano Materials; August 7 to 9, 2017, Toronto, Ontario, Canada
Mix design of self-compacting concrete with high content mineral additions and different nature aggregate mixtures for performance in high aggressive environments.	J. Puentes, J.L. Garcia Calvo and M.C. Alonso	V Congreso Iberoamericano de Hormigón Autocompactante y Hormigones Especiales (HAC-BAC); May 2018, Valencia, Spain
Tecnologías y productos novedosos en un entorno hiperreglamentado. Mucho mas que ladrillos.	MC Alonso.	Reconstruyendo el sector de la construcción en el marco de los desafíos globales. IETcc, Madrid (2016)
CSIC experience on self-healing of concrete structures.	G. Pérez, M.C. Alonso, M. Sanchez and A. Guerrero.	1st Internal Workshop under SARCOS - Self-healing as prevention repair of concrete structures (2017)
Influence of combined action of leaching and freeze-thaw processes on the interaction of concrete with aggressive waters	Kristina Villar Arribas, M ^a Cruz Alonso Alonso, Peter Lundqvist	I JORNADAS DE JÓVENES CIENTÍFICOS EN MATERIALES DE CONSTRUCCIÓN 2018, 18-19 de Junio 2018, Escuela de Ingenieros de Caminos, Canales y Puertos (UPM) , Madrid
Mejora de prestaciones en materiales de base cemento a través de nanopartículas.	M.C. Alonso and A. Guerrero	IV Congreso Centroamericano de Nanotecnología y II Congreso de Nanotecnología y Tecnologías Futuras para el Desarrollo Sostenible. Universidad San carlos de Guatemala (2017)
Mitigating autogenous shrinkage by means of superabsorbent polymers - effect on concrete properties	Laurence De Meyst, Maria Araújo, Arn Mignon, Kim Van Tittelboom, Sandra Van Vlierberghe, Nele De Belie	2nd International RILEM/COST Conference on Early Age Cracking and Serviceability in Cement-based Materials and Structures - EAC2; 12–14 September 2017, ULB-VUB, Brussels, Belgium
Design, upscaling and testing of anionic polymers for use in durable concrete structures	Laurence De Meyst, Els Mannekens, Maria Araujo ¹ , Didier Snoeck, Kim Van Tittelboom,	RILEM spring meeting, Rovinj , Croatia, 18 – 22 March 2019

	Sandra Van Vlierberghe, Geert Deroover, Nele De Belie	
Concrete Mix Design Development for Offshore Structures	Kjell Tore Fosså and Widiyanto	ACI Convention, March 24-28, Québec, Canada
Range of nanostructured materials as a toolbox for incorporation of new functionalities in protective coatings	Frederico Maia, Fabiana Y.M Vieira and Claudia Rocha	CORROSION 2020, March 15-19, Houston, Texas, USA. (postponed to June 14-18)
Chemical attack in concrete	Sara Irico, Manuela Bianchi, Mauro Pelucchi	Periodic Meeting of the customer technical assistance of Buzzi Unicem, 15.12.2016, Casale Monferrato (ITALY)
The effect of SAP and POSS additives on the durability of concrete in arctic environments	Peter Lundqvist	SMASCO – 1st International conference on smart materials for sustainable construction, 10-12 December 2019, Luleå, Sweden.