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TABLE OF CONTENTS

1 Introduction

As part of the ATHOR training program, the 15 Early-Stage Researchers (ESRs) have had the opportunity to disseminate the results of their cutting-edge research through international journals and international conferences across the globe. The ATHOR ESRs have participated in conferences in Japan, China, America and Europe and have published their work in Rank A journals such as the Journal of the European Ceramic Society, Ceramics International and the International Journal of Mechanical Sciences. These published results are also openly available via the ATHOR website and on the Zenodo platform. This deliverable will highlight the international conferences attended by the ESRs, the published scientific papers and the plans for future publication.

2 International conferences

The 15 ESRs have participated in a selection of international conferences such as UNITECR (UNified International Technical Conference of Refractories), ECerS (European Ceramic Society), the International Colloquium on Refractories and the Wuhan Symposium on Refractories. These conferences are listed in the table below.

ESR		International conference details
01	1	VITIELLO Diana, SMITH David, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, **Thermo-physical properties characterisation of refractory materials (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, LIAM Luis, REBOUILLAT Lionel, SMITH David, **Thermo-physical properties characterisation of insulating materials and joints (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
	3	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, REBOUILLAT Lionel, SMITH David, **Thermal properties characterization of insulating refractory materials used in steel ladles,** XVI ECerS Conference, 2019, Turin, Italy.
	4	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, REBOUILLAT Lionel, SMITH David, **Characterization of thermal properties of insulating refractory materials (Poster)**, WoCeram, 2019, Budapest, Hungary.
	5	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, LIAM Luis, REBOUILLAT Lionel, SMITH David, **Thermal properties characterization of refractory materials used in the insulation layer of steel ladles,** UNITECR 2019, Yokohama, Japan.
	6	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, LIAM Luis, REBOUILLAT Lionel, SMITH David, **Thermo-physical properties characterisation of insulating materials and joints (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	7	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, REBOUILLAT Lionel, SMITH David, **Evaluation of heat conduction through insulating refractory bricks and joints: material thermal conductivity and interface resistance,** 63rd International Colloquium on Refractories, 2020, Aachen, Germany.
	8	VITIELLO Diana, **Thermo-physical properties of insulating refractory materials,** Gustav Eirich Award, 64th International Colloquium on Refractories, 2021, Aachen, Germany.

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02	1	KACZMAREK Robert, KHLIFI Imad, POP Octavian, DUPRE Jean-Christophe, DOUMALIN Pascal, HUGER Marc, **Experimental fracture behaviour characterisation of refractories by refined digital image correlation method,** Journées annuelles du Groupe Français de la Céramique (GFC), 2018, Bordeaux, France.
	2	KACZMAREK Robert, POP Ion Octavian, DUPRE Jean-Christophe, HUGER Marc, **Thermomechanical characterization of an alumina spinel refractory (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	3	KACZMAREK Robert, DUPRE Jean-Christophe, DOUMALIN Pascal, POP Ion Octavian, BREDER TEIXEIRA Lucas, GILLIBERT Jean, BLOND Eric, HUGER Marc, **Thermomechanical behaviour of an alumina spinel refractory for steel ladle applications,** UNITECR 2019, Yokohama, Japan.
	4	KACZMAREK Robert, DUPRE Jean-Christophe, DOUMALIN Pascal, POP Ion Octavian, BREDER TEIXEIRA Lucas, GILLIBERT Jean, BLOND Eric, HUGER Marc, **Thermomechanical behaviour of an alumina spinel refractory for steel ladle applications,** XVI ECerS Conference, 2019, Turin, Italy.
	5	KACZMAREK Robert, OLIVEIRA Rafael, POP Ion Octavian, DUPRE Jean-Christophe, DOUMALIN Pascal, TESSIER-DOYEN Nicolas, HUGER Marc, **In-situ monitoring of magnesia spinel refractories during thermal shock tests by an advanced experimental device (ATHORNA),** UNITECR, 2022, Chicago USA.
03	1	ASADI Farid, HUGER Marc, ANDRE Damien, DOUMALIN Pascal, **Micromechanical approach by Discrete Element Method (DEM) (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	ASADI Farid, NGUYEN Truong Thi, ANDRE Damien, DOUMALIN Pascal, HUGER Marc, TESSIER-DOYEN Nicolas, **Thermo-mechanical modelling of brittle continuum by Discrete Element Method (DEM) simulation,** Journées annuelles du Groupe Français de la Céramique (GFC), 2018, Bordeaux, France.
	3	ASADI Farid, HUGER Marc, ANDRE Damien, DOUMALIN Pascal, EMAM Sacha, **Micromechanical approach by Discrete Element Method (DEM) (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	4	ASADI Farid, HUGER Marc, ANDRE Damien, DOUMALIN Pascal, EMAM Sacha, **Discrete Element Method (DEM) modelling of wedge splitting test by focusing on the brittleness of quasi-brittle materials,** XVI ECerS Conference, 2019, Turin, Italy.
	5	ASADI Farid; HUGER Marc; ANDRE Damien; DOUMALIN Pascal; EMAM Sacha, **Micromechanical approach by Discrete Element Method (DEM)** Wuhan symposium on refractories, 2019, Wuhan, China.
	6	ASADI Farid; HUGER Marc; ANDRE Damien; DOUMALIN Pascal; EMAM Sacha, **Numerical modeling of wedge splitting test by discrete element approach: comparison between cohesive beam model and flat joint contact model** UNITECR 2019, Yokohama, Japan.
	7	ASADI Farid, HUGER Marc, ANDRE Damien, DOUMALIN Pascal, EMAM Sacha, **Numerical Modelling of the Quasi-brittle Behaviour of Materials by Considering Microcracks Effect** Fifth International Itasca Symposium, 2020, Vienna, Austria.
	8	ASADI Farid, HUGER Marc, ANDRE Damien, DOUMALIN Pascal, EMAM Sacha, **Modelling the elastic properties of bi-phase refractories by using periodic homogenization approach with Discrete Element Method (DEM),** UNITECR, 2022, Chicago USA.
04	1	REYNAERT Camille, SNIEZEK Edyta, SZCZERBA Jacek, **Corrosion phenomena between refractories and steel slags,** International Polish-French Conference, 2018, Krakow.
	2	REYNAERT Camille, SNIEZEK Edyta, SZCZERBA Jacek, **Characteristic temperature determination of refractory raw materials and slag mixtures,** Polska Ceramika, 2018, Krakow.
	3	REYNAERT Camille, SNIEZEK Edyta, TONNESEN Thorsten, SZCZERBA Jacek, **Impact of changes of composition of alumina-rich slags on the corrosion of refractories found in steel ladles,** UNITECR 2019, Yokohama, Japan.
	4	REYNAERT Camille, SNIEZEK Edyta, SZCZERBA Jacek, **Influence of slag compositions changes on the corrosion of refractory bricks from the working lining (Poster),** XVI ECerS Conference, 2019, Turin, Italy.

	5	REYNAERT Camille, SNIEZEK Edyta, SZCZERBA Jacek, **Impact of composition change of alumina rich slag on the corrosion of raw materials used in steel making refractories,** XVI ECerS Conference, 2019, Turin, Italy.
05	1	KIELIBA Ilona, TONNESEN Thorsten, TELLE Rainer, **Thermal cyclic characteristic of alumina spinel steel ladle brick (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	KIELIBA Ilona, TONNESEN Thorsten, TELLE Rainer, HUGER Marc, GUEGUEN Erwan, PARR Chris, **Alumina spinel castables under thermal cycling conditions in situ characterization,** UNITECR 2019, Yokohama, Japan.
	3	KIELIBA Ilona, TONNESEN Thorsten, HUGER Marc, GUEGUEN Erwan, TELLE Rainer, **Thermal cycling behaviour of alumina spinel castables (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
	4	KIELIBA Ilona, TONNESEN Thorsten, HUGER Marc, TELLE Rainer, **Acoustic emission temperature dependent behavior of alumina-spinel refractory materials (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	5	KIELIBA Ilona, TONNESEN Thorsten, TELLE Rainer, VITIELLO Diana, HUGER Marc, **High temperature damping characteristic of spinel containing materials,** 63rd International Colloquium on Refractories, 2020, Aachen, Germany.
	6	Ilona Kieliba, Thorsten Tonnesen, Reiner Telle, Marc Huger, **Anelastic relaxation phenomena in alumina-spinel refractories,** UNITECR, 2022, Chicago USA.
06	1	KYRILIS Efstathios, TONNESEN Thorsten, TELLE Rainer, **Monitoring the elastic properties of alumina-based monolithics exposed to steel slag and the effect of preformed spinel addition,** 62nd International Colloquium on Refractories, 2019, Aachen, Germany.
	2	KYRILIS Efstathios, TONNESEN Thorsten, TELLE Rainer, **The effect of the binder and the spinel content on the performance of high-alumina self-flow monolithics,** 63rd International Colloquium on Refractories, 2020, Aachen, Germany.
	3	KYRILIS Efstathios, TONNESEN Thorsten, TELLE Rainer, **Valorisation potential of V-bearing residues,** 7th International Slag Valorisation Symposium, 2021, Leuven, Belgium.
07	1	TADAION Vahid, ANDREEV Kirill, TONNESEN Thorsten, **The influence of loading protocol in mechanical fatigue tests on damage development in a silica refractory (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	2	TADAION Vahid, ANDREEV Kirill, TONNESEN Thorsten, TELLE Rainer, **The influence of crystallisation on thermal shock behaviour of a fused silica refractory castable concrete,** UNITECR 2019, Yokohama, Japan.
	3	TADAION Vahid, TONNESEN Thorsten, TELLE Rainer, ANDREEV Kirill, ZHU C, WANG W, YIN Y, **Thermal and mechanical cyclic tests and fracture mechanics parameters as indicators of thermal shock resistance – case study on silica refractories,** 62nd International Colloquium on Refractories, 2019, Aachen, Germany.
	4	TADAION Vahid, ANDREEV Kirill, TONNESEN Thorsten, & TELLE Rainer, **The Influence of Loading Protocol in Mechanical Fatigue Tests on Damage Development in Silica Refractories** XVI ECerS Conference, 2019, Turin, Italy.
08	1	NGUYEN Thanh Hung, JIN Shengli, HARMUTH Harald, **Identification of fracture mechanisms of ordinary refractories (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	2	NGUYEN Thanh Hung, GRUBER Dietmar, HARMUTH Harald, HUGER Marc, **Characterization of the fracture mechanisms with miniaturized wedge splitting test (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	3	NGUYEN Thanh Hung, GRUBER Dietmar, HARMUTH Harald, HUGER Marc, **Characterization of the fracture mechanisms of ordinary refractory materials on a microscale level (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
09	1	BREDER TEIXEIRA Lucas, BLOND Eric, SAYET Thomas, GILLIBERT Jean, **Inverse identification of mechanical materials' properties using the integrated DIC technique (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	BREDER TEIXEIRA Lucas, GILLIBERT Jean, BLOND Eric, SAYET Thomas, **Creep characterization of refractory materials at high temperatures using the integrated digital image correlation technique,** UNITECR 2019, Yokohama, Japan.

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	3	BREDER TEIXEIRA Lucas, GILLIBERT Jean, BLOND Eric, SAYET Thomas, **Inverse identification of asymmetric creep parameters using the I-DIC technique,** XVI ECerS Conference, 2019, Turin, Italy.
	4	BREDER TEIXEIRA Lucas, GILLIBERT Jean, BLOND Eric, SAYET Thomas, **Application of the Integrated Digital Image Correlation technique associated to Brazilian disc tests to identify the creep behavior of refractory materials,** XVI ECerS Conference, 2019, Turin, Italy.
	5	TEIXEIRA Lucas, SAYET Thomas, GILLIBERT Jean, BLOND Eric, **Proposition of two asymmetric constitutive laws to model the creep behavior of refractory materials at high temperatures,** UNITECR, 2022, Chicago USA.
	6	TEIXEIRA Lucas, LEPLAY Paul, SAYET Thomas, GILLIBERT Jean, BLOND Eric **Identification of mechanical properties of an asymmetric creep law applied to refractories using the integrated digital image correlation technique** UNITECR, 2022, Chicago USA.
10	1	ALI Mahmoud, GASSER Alain, SAYET Thomas, BLOND Eric, **Nonlinear thermomechanical modelling of refractory masonry linings (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	2	ALI Mahmoud, SAYET Thomas, GASSER Alain, BLOND Eric, **Thermomechanical modelling of refractory mortarless masonry wall subjected to biaxial compression,** UNITECR 2019, Yokohama, Japan.
	3	Mahmoud Ali, Thomas Sayet, Alain Gasser, Eric Blond, **A multiscale model for numerical modelling of homogenized elastic-viscoplastic behavior of mortarless refractory masonry structures,** 14th World Congress in Computational Mechanics (WCCM) - ECCOMAS Congress, 2020, Paris, France.
11	1	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **Caracterização de termomecânica de materiais refratários o estado de arte,** 6as Jornadas de Segurança aos Incêndios Urbanos (6JORNINC), 2018, Coimbra, Portugal.
	2	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **Experimental thermomechanical characterization of refractory masonry (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	3	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **Aplicações industriais de cerâmicas refratárias estado da arte,** 6as Jornadas de Segurança aos Incêndios Urbanos (6JORNINC), 2018, Coimbra, Portugal.
	4	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **The characterization of alumina spinel refractory bricks,** XVI ECerS Conference, 2019, Turin, Italy.
	5	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **The characterization of joint behaviour in mortarless refractory masonry,** UNITECR 2019, Yokohama, Japan.
	6	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **Numerical study on the behaviour of concrete masonry in fire situation,** 5º CILASCI - Congresso Ibero-Latino-Americano em Segurança contra Incêndio, 2019, Porto, Portugal.
	7	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, **Thermomechanical characterization of alumina spinel bricks,** XVI ECerS Conference, 2019, Turin, Italy.
	8	OLIVEIRA Rafael, SANTIAGO Isabela, RODRIGUES João, RODRIGUES Francisco, **Numerical modelling of cold - formed steel σ-shaped beams under fire condition,** CoRASS, 2019, Coimbra, Portugal.
	9	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, & LOURENCO Paulo, **Numerical analysis on the behaviour of concrete masonry walls subjected to fire,** CoRASS, 2019, Coimbra, Portugal.
	10	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, LOURENÇO Paulo, MARSCHALL Ulrich, ALI Mahmoud, **Thermomechanical behavior of dry-stacked refractory masonry walls** , UNITECR 2022, Chicago, USA.

European Commission
Horizon 2020
European Union funding
for Research & Innovation

12	1	DARBAN Sina, PROROK Ryszard, MADEJ Dominika, SZCZERBA Jacek, **Influence of corrosion on thermomechanical linings behaviour (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	DARBAN Sina, PROROK Ryszard, MADEJ Dominika, SZCZERBA Jacek, **Thermal properties and thermal shock behavior of alumina based refractories (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
	3	DARBAN Sina, PROROK Ryszard, MADEJ Dominika, SZCZERBA Jacek, **Investigation on thermal shock resistance of alumina-spinel (a-ma) refractory brick,** XVI ECerS Conference, 2019, Turin, Italy.
	4	DARBAN Sina, PROROK Ryszard, MADEJ Dominika, SZCZERBA Jacek, **Thermal shock resistance of fired corundum spinel brick and spinel containing LCC,** UNITECR 2019, Yokohama, Japan.
	5	DARBAN Sina, PROROK Ryszard, SZCZERBA Jacek, **Research method of corroded refractory materials for thermomechanical test: case study alumina-spinel and magnesia-carbon,** 62nd International Colloquium on Refractories, 2019, Aachen, Germany.
	6	DARBAN Sina, SAYET Thomas, PROROK Ryszard, BLOND Eric, SZCZERBA Jacek, SINNEMA Sido, **The corroded refractory linings preparation technique at laboratory condition for thermomechanical investigation,** 32nd Canadian Materials Science Conference, 2021, Kingstone, Canada.
	7	DARBAN Sina, PROROK Ryszard, SZCZERBA Jacek, **Corroded alumina-spinel sample preparation in laboratory condition for thermomechanical investigations,** UNITECR, 2022, Chicago USA.
13	1	SOARES Thais, AZENHA Miguel, LOURENCO Paulo, **Creep modelling for refractory materials used in furnace linings,** Congresso de Métodos Numéricos em Engenharia, 2019, Guimarães, Portugal.
	2	SOARES Thais, LOURENCO Paulo, AZENHA Miguel, **Computational strategies for masonry structures subjected to high temperatures (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
14	1	SAMADI Soheil, JIN Shengli, **Thermomechanical modelling of industrial linings (Poster),** 61st International Colloquium on Refractories, 2018, Aachen, Germany.
	2	SAMADI Soheil, JIN Shengli, HARMUTH Harald, **Thermomechanical modelling of industrial linings (mechanical characterization) (Poster),** XVI ECerS Conference, 2019, Turin, Italy.
	3	SAMADI Soheil, JIN Shengli, HARMUTH Harald, **Thermomechanical modelling of industrial linings (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	4	SAMADI Soheil, TEIXEIRA Lucas, JIN Shengli, Gruber Dietmar, HARMUTH Harald, **Creep parameter determination of a shaped alumina spinel refractory using statistical analysis,** 63rd International Colloquium on Refractories, 2020, Aachen, Germany.
15	1	GAJJAR Pratik, PEREIRA João, LOURENCO Paulo, **Validation of thermomechanical models of refractory masonry in industrial full scale (Poster),** Wuhan symposium on refractories, 2019, Wuhan, China.
	2	GAJJAR Pratik, PEREIRA João, LOURENCO Paulo, **Effect of creep on refractory masonry wall subjected to cyclic temperature loading,** UNITECR 2019, Yokohama, Japan.
	3	GAJJAR Pratik, PEREIRA João, LOURENCO Paulo, **Numerical simulation of refractory masonry subjected to cyclic temperature Loading,** Congresso de Métodos Numéricos em Engenharia, 2019, Guimarães, Portugal.
	4	GAJJAR Pratik, PEREIRA João, LOURENCO Paulo, **Thermo-mechanical behavior of refractory masonry linings: An overview on numerical simulation,** 13th North American Masonry Conference, 2019, Salt Lake City, UT, USA.
	5	GAJJAR Pratik, PEREIRA João, LOURENCO Paulo, **Effect of creep on refractory masonry wall subjected to high temperature,** XVI ECerS Conference, 2019, Turin, Italy.

European Commission
Horizon 2020
European Union funding
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3 Awards

The ESRs have also received recognition of their research and presentation skills through several awards shown below.

Award Denomination	ESR and publication title
Poster contest (Third prize), 61st International Colloquium on Refractories, 2018, Aachen, Germany.	BREDER TEIXEIRA Lucas, **Inverse identification of mechanical materials' properties using the integrated DIC technique.**
Poster contest (First prize), XVI ECerS Conference, 2019, Turin, Italy.	KACZMAREK Robert, **Thermomechanical behaviour of an alumina spinel refractory for steel ladle applications.**
Excellent Presentation Award UNITECR 2019, Yokohama, Japan.	KACZMAREK Robert, **Thermomechanical behaviour of an alumina spinel refractory for steel ladle applications.**
Excellent Presentation Award UNITECR 2019, Yokohama, Japan.	BREDER TEIXEIRA Lucas, **Creep characterization of refractory materials at high temperatures using the Integrated Digital Image Correlation technique.**
Best Paper Award Canadian Material Science Conference, 2021, online.	DARBAN Sina, **The corroded refractory linings preparation technique at laboratory condition for thermomechanical investigation.**
Gustav Eirich Award (Second prize), 64th International Colloquium on Refractories, 2021, Aachen, Germany.	VITIELLO Diana, **Thermo-physical properties of insulating refractory materials.**

4 Publications, accepted, submitted and planned

The planned, submitted and accepted publications that have been, or are in the process of being produced as a result of the ATHOR project are indicated in the table below.

ESR		Peer reviewed papers
01	1	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, TONNESEN Thorsten, LAÍM Luís, REBOUILLAT Lionel, SMITH David, **Thermal conductivity of insulating refractory materials: Comparison of steady-state and transient measurement methods,** Open Ceramics 2021, 6, 100118. https://doi.org/10.1016/j.oceram.2021.100118.
	2	VITIELLO Diana, KIELIBA Ilona, HONDA Sawao, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, MARSHALL Hans Ulrich, SMITH David, **Influence of the microstructure on the thermal conductivity of refractory materials (temporary),** in progress (40% ready).
	3	VITIELLO Diana, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, REBOUILLAT Lionel, SMITH David, **Thermal conductivity of porous refractory material after aging in service with carbon pick-up,** in progress (80% ready).
02	1	KACZMAREK Robert, DUPRÉ Jean-Christophe, DOUMALIN Pascal, POP Octavian, TEIXEIRA Lucas, HUGER Marc, **High-temperature digital image correlation techniques for full-field strain and crack length measurement on ceramics at 1200°C: Optimization of speckle pattern and uncertainty assessment,** Optics and Lasers in Engineering 2021, 146, 106716. https://doi.org/10.5281/zenodo.6556728. https://doi.org/10.1016/j.optlaseng.2021.106716.
	2	KACZMAREK Robert, De OLIVEIRA Rafael, LALAU Yasmine, OUM Guy, KHLIFI Imad, DUPRÉ Jean-Christophe, DOUMALIN Pascal, POP Octavian, TESSIER-DOYEN Nicolas, HUGER Marc, **Advanced in-situ measurements of large refractory sample submitted to a controlled thermal gradient. Part I: Dedicated experimental protocol,** To be submitted to Experimental Mechanics (progress: 80 %).
	3	KACZMAREK Robert, De OLIVEIRA Rafael, LALAU Yasmine, OUM Guy, KHLIFI Imad, DUPRÉ Jean-Christophe, DOUMALIN Pascal, POP Octavian, TESSIER-DOYEN Nicolas, HUGER Marc, **Advanced in-situ measurements of large refractory sample submitted to a controlled thermal gradient. Part II: Application to alumina spinel brick,** To be submitted to Experimental Mechanics (progress: 40 %).

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03	1	ASADI Farid, ANDRÉ Damien, EMAM Sacha, DOUMALIN Pascal, HUGER Marc, **Numerical modelling of the quasi-brittle behaviour of refractory ceramics by considering microcracks effect,** Journal of the European Ceramic Society 2022, 42(3), 1149-1161. https://doi.org/10.5281/zenodo.5877203 https://doi.org/10.1016/j.jeurceramsoc.2021.11.016
	2	ASADI Farid, ANDRÉ Damien, EMAM Sacha, DOUMALIN Pascal, Imad KHLIFI, HUGER Marc, **Fracturing behavior modeling of refractory ceramics by Discrete Element Method (DEM) and discrete/continuous optimization: application to wedge splitting test,** Revised version submitted to Open Ceramics.
	3	ASADI Farid, ANDRÉ Damien, EMAM Sacha, DOUMALIN Pascal, HUGER Marc, **Advances in micro-mechanical modeling using a bonded-particle model and periodic homogenization within discrete element framework applied to continuous heterogeneous materials,** Submitted to the Journal of the European Ceramic Society.
04	1	DARBAN Sina, REYNAERT Camille, LUDWIG Maciej, PROROK Ryszard, JASTRZĘBSKA Ilona, SZCZERBA Jacek, **Corrosion of alumina-spinel refractory by secondary metallurgical slag using coating corrosion test,** Materials 2022, 15(10), 3425. https://doi.org/10.3390/ma15103425.
	2	REYNAERT Camille, SNIEZEK Edyta, SZCZERBA Jacek, **Corrosion tests for refractory materials intended for the steel industry – a review,** Ceramics-Silikáty 2020, 64 (3), 278 - 288. https://doi.org/10.13168/cs.2020.0017.
	3	REYNAERT Camille, DARBAN Sina, SNIEZEK Edyta, TONNESEN Thorsten, SZCZERBA Jacek **Impact of the addition of SiO_2 and MnO in a calcium-aluminate slag on the corrosion of a MgO-C brick,** To be published.
	4	REYNAERT Camille, DARBAN Sina, SNIEZEK Edyta, TONNESEN Thorsten, SZCZERBA Jacek, **Impact of the addition of SiO_2 and MnO in a calcium-aluminate slag on the corrosion of an Alumina-spinel brick,** Under construction title can change.
05	1	KIELIBA Ilona, DOMINIK Ireneusz, LALIK Krzysztof, TONNESEN Thorsten, SZCZERBA Jacek, TELLE Reiner, **Self-excited acoustical system frequency monitoring for refractory concrete under uniaxial compression,** Energies 2021, 14, 2222. https://doi.org/10.3390/en14082222
	2	VITIELLO Diana, KIELIBA Ilona, HONDA Sawao, NAIT-ALI Benoit, TESSIER-DOYEN Nicolas, MARSHALL Hans Ulrich, SMITH David, **Influence of the microstructure on the thermal conductivity of refractory materials (temporary),** in progress (40% ready).
	3	KIELIBA Ilona, TONNESEN Thorsten, **Anelastic relaxation phenomena in alumina-spinel refractories. Part 1: Damping study,** To be submitted in May.
	4	KIELIBA Ilona, TONNESEN Thorsten, **Anelastic relaxation phenomena in alumina-spinel refractories. Part 2: Acoustic emissions study,** To be submitted in August.
06	1	KYRILIS Efstathios, TONNESEN Thorsten, GUEGUEN Erwan, DEUTSCH Guenter, LOOP Peter, GONZALEZ-JULIAN Jesus, **Valorisation of FeV slag as alternative low-carbon footprint cement for alumina-based refractory concrete,** Under construction (title may change).
	2	KYRILIS Efstathios, TONNESEN Thorsten, GONZALEZ-JULIAN Jesus, **Towards the development of cement-free in-situ magnesium aluminate spinel castables,** Under construction (title and authors may be changed-added).
	3	KYRILIS Efstathios, TONNESEN Thorsten, GONZALEZ-JULIAN Jesus, **Thermo-mechanical characterisation of alumina-based castables after exposure to coupled corrosion-thermal shock environment**, Under construction (title and authors may be changed-added).
07	1	TADAION V., ANDREEV K., ZHU Q., WANG W., YIN Y., TONNESEN T., **Thermal and mechanical cyclic tests and fracture mechanics parameters as indicators of thermal shock resistance – case study on silica refractories** Journal of the European Ceramic Society 2019, 39(4), 1650-1659. https://doi.org/10.1016/j.jeurceramsoc.2018.12.062.

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08	1	NGUYEN Thanh Hung, GRUBER Dietmar, HARMUTH Harald, **Characterization of micro fracture mechanism in ordinary refractories**, Under construction (title and authors may be changed-added).
	2	NGUYEN Thanh Hung, GRUBER Dietmar, HARMUTH Harald, **Miniaturize wedge splitting on ordinary refractories,** Under construction (title and authors may be changed-added).
	3	NGUYEN Thanh Hung, GRUBER Dietmar, HARMUTH Harald, **Discreet element modelling of industrial refractories**, Under construction (title and authors may be changed-added).
09	1	TEIXEIRA Lucas, GILLIBERT Jean, SAYET Thomas, BLOND Eric, **A creep model with different properties under tension and compression - Applications to refractory materials,** International Journal of Mechanical Sciences 2021, 212, 106810. https://doi.org/10.1016/j.ijmecsci.2021.106275.
	2	KACZMAREK Robert, DUPRÉ Jean-Christophe, DOUMALIN Pascal, POP Octavian, TEIXEIRA Lucas, HUGER Marc, **High-temperature digital image correlation techniques for full-field strain and crack length measurement on ceramics at 1200°C: Optimization of speckle pattern and uncertainty assessment,** Optics and Lasers in Engineering 2021, 146, 106716. https://doi.org/10.5281/zenodo.6556728. https://doi.org/10.1016/j.optlaseng.2021.106716.
	3	TEIXEIRA Lucas, SAMADI Soheil, GILLIBERT Jean, JIN Shengli, SAYET Thomas, GRUBER Dietmar, Blond Eric, **Experimental investigation of the tension and compression creep behavior of alumina-spinel refractories at high temperatures,** Ceramics 2020, 3, 372-383. https://doi.org/10.3390/ceramics3030033.
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	3	ALI Mahmoud, SAYET Thomas, GASSER Alain, BLOND Eric, **Transient nonlinear thermomechanical modeling of steel ladle refractory linings using nonlinear homogenization approach,** In progress (95%)
	4	ALI Mahmoud, SAYET Thomas, GASSER Alain, BLOND Eric, **A Multiscale Approach for Modeling the Elastic Viscoplastic damageable Behavior of refractory masonry with mortar joints,** In progress (75%).
	5	ALI Mahmoud, OLIVEIRA Rafael, PEREIRA João, RODRIGUES João, LOURENÇO Paulo, MARSCHALL Hans Ulrich, SAYET Thomas, GASSER Alain, BLOND Eric, **Nonlinear thermomechanical behaviour of refractory masonry with dry joints: Part I Experimental characterization,** To be submitted.
	6	GAJJAR Pratik, ALI Mahmoud, PEREIRA João, SAYET Thomas, GASSER Alain, BLOND Eric, LOURENÇO Paulo, **Nonlinear thermomechanical behaviour of refractory masonry with dry joints: Part II Numerical analysis,** To be submitted.
11	1	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, LOURENÇO Paulo, LOPES Rúben, **Experimental and numerical analysis on the structural fire behaviour of three-cell hollowed concrete masonry walls,** Engineering Structures 2021, 228, 111439. https://hdl.handle.net/1822/69519 https://doi.org/10.1016/j.engstruct.2020.111439
	2	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, LOURENÇO Paulo, MARSCHALL Ulrich, **Thermomechanical behaviour of refractory dry-stacked masonry walls under uniaxial compression,** Engineering Structures 2021, 240, 112361. https://hdl.handle.net/1822/72527 https://doi.org/10.1016/j.engstruct.2021.112361.

	3	OLIVEIRA Rafael, RODRIGUES João, PEREIRA João, LOURENÇO Paulo, MARSCHALL Ulrich, **Normal and tangential behaviour of dry joints in refractory masonry,** Engineering Structures 2021, 243, 112600. https://hdl.handle.net/1822/73394 https://doi.org/10.1016/j.engstruct.2021.112600.
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12	1	DARBAN Sina, REYNAERT Camille, LUDWIG Maciej, PROROK Ryszard, JASTRZĘBSKA Ilona, SZCZERBA Jacek, **Corrosion of alumina-spinel refractory by secondary metallurgical slag using coating corrosion test,** Materials 2022, 15(10), 3425. https://doi.org/10.3390/ma15103425.
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	3	DARBAN Sina, GILLIBERT Jean, SAYET Thomas, PROROK Ryszard, BLOND Eric, SZCZERBA Jacek **Fracture behaviour of corroded alumina-spinel refractories at 1200 °C with aid of Brazilian test and digital image correlation (DIC)"** To be submitted.
13	1	SOARES Thaís, AZENHA Miguel, LOURENÇO Paulo, **Numerical simulation of creep response of refractories at industrial service conditions,** In progress.
	2	SOARES Thaís, AZENHA Miguel, LOURENÇO Paulo, **Thermomechanical behaviour of refractory masonry,** In progress.
	3	SOARES Thaís, AZENHA Miguel, LOURENÇO Paulo, **Thermomechanical simulation of a steel ladle in service conditions,** In progress.
14	1	SAMADI Soheil, JIN Shengli, GRUBER Dietmar, HARMUTH Harald, **Thermomechanical finite element modeling of steel ladle containing alumina spinel refractory lining,** Finite Elements in Analysis and Design 2022, 206,103762. https://doi.org/10.1016/j.finel.2022.103762.
	2	SAMADI Soheil, JIN Shengli, HARMUTH Harald, **Combined damaged elasticity and creep modeling of ceramics with wedge splitting tests,** Ceramics International 2021, 47(18), 25846-25853. https://doi.org/10.1016/j.ceramint.2021.05.315.
	3	SAMADI Soheil, JIN Shengli, GRUBER Dietmar, HARMUTH Harald, **A comparison of two damage models for inverse identification of mode I fracture parameters: Case study of a refractory ceramic,** International Journal of Mechanical Sciences 2021, 197, 106345. https://doi.org/10.1016/j.ijmecsci.2021.106345.
	4	SAMADI Soheil, JIN Shengli, GRUBER Dietmar, HARMUTH Harald, SCHACHNER Stefan, **Statistical study of compressive creep parameters of an alumina spinel refractory,** Ceramics International 2020, 46(10), Part A, 14662-14668. https://doi.org/10.1016/j.ceramint.2020.02.267.
15	1	GAJJAR Pratik, ALI Mahmoud, PEREIRA João, SAYET Thomas, GASSER Alain, BLOND Eric, LOURENÇO Paulo, **Nonlinear thermomechanical behaviour of refractory masonry with dry joints: Part II Numerical analysis,** To be submitted.
	2	GAJJAR Pratik, PUT Pieter, PEREIRA João, LUCHINI Bruno, LOURENÇO Paulo, SINNEMA Sido, **Characterisation of mortarless refractory masonry joints under elevated temperatures,** To be submitted.
	3	GAJJAR Pratik, PUT Pieter, PEREIRA João, LUCHINI Bruno, LOURENÇO Paulo, SINNEMA Sido, **An experimental and numerical analysis for understanding the in-situ thermomechanical behaviour of an laboratory scaled pilot steel ladle,** To be submitted.

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5 Defended Theses

As well as the publication made via conferences and publications, the following PhD manuscripts have been defended and are available to the general public.

ESR, PhD Title and Defence Date
VITIELLO Diana, Thermo-physical properties of insulating refractory materials, **University of Limoges, April 29th, 2021.** https://doi.org/10.5281/zenodo.6560568
ASADI Farid Micro-mechanical modelling of heterogeneous materials containing microcracks with Discrete Element Method (DEM), **University of Limoges, June 22nd, 2021** https://doi.org/10.5281/zenodo.6560647
SAMADI Soheil, Advanced mechanical characterizations and thermomechanical modeling of shaped alumina spinel material in steel ladle, **Montanuniversität Leoben, December 16th, 2021** https://doi.org/10.5281/zenodo.6560728
Mahmoud ALI Nonlinear thermomechanical modeling of refractory masonry linings, **University of Orléans, December 17th, 2021** https://doi.org/10.5281/zenodo.6560670
KACZMAREK Robert, Improvement of strain field monitoring at high temperature and thermomechanical characterization of alumina spinel refractory materials**,** **University of Limoges, December 22nd, 2021.** https://doi.org/10.5281/zenodo.6560619
OLIVEIRA Rafael, Experimental and numerical thermomechanical characterization of refractory masonries, **Universidade do Minho, April 4th, 2022.** https://doi.org/10.5281/zenodo.6557260

6 Conclusion

The cutting-edge research developed during the ATHOR project has been widely disseminated. Throughout their studies the ESRs have presented their work at prestigious international conferences in America, China, Japan and across Europe. Moving to the end of the project, full publications in Rank A international journals has naturally become the focus with 18 articles already published and 3 currently under review. The target of three articles on average, per ESR, remains feasible, even with the unavoidable delays caused by the COVID-19 pandemic (March 2021 to February 2022). The dissemination will thus continue over the coming months and years with many more articles already at different stages of the writing process.