

Dr. YUSUF ÇAĞATAY ERŞAN

Personal Information

Birthyear: 1989

Place of birth: Edinburgh/İngiltere

Office Phone: [+90 312 297 7800](tel:+903122977800) Extension: 116

Email: yusufersan@hacettepe.edu.tr

Web: <https://avesis.hacettepe.edu.tr/yusufersan>

Address: Hacettepe Üniversitesi Beytepe Kampüsü, Çevre Mühendisliği Bölümü, 06800, Beytepe, ANKARA

Education Information

Doctorate, Universiteit Gent, Faculty of Bioscience Engineering, Department of Biochemical and Microbial Technology, Belgium 2013 - 2016

Post Graduate, Middle East Technical University, Faculty Of Engineering, Department Of Environmental Engineering, Turkey 2011 - 2013

Under Graduate, Middle East Technical University, Faculty Of Engineering, Department Of Environmental Engineering, Turkey 2006 - 2011

Foreign Languages

English, C2 Mastery

Research Areas

Environmental Microbiology, Waste Water Collection and Treatment, Ecology and Pollution, Pollution Prevention and Waste Reduction, Bioreactor, Environmental Biotechnology, Industrial Biotechnology, Microbial Biotechnology

Academic Titles / Tasks

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2019 - Continues

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2017 - 2019

Research Assistant, Universiteit Gent, Faculty of Bioscience Engineering, Department of Biochemical and Microbial Technology, 2013 - 2016

Research Assistant, Middle East Technical University, Faculty Of Engineering, Department Of Environmental Engineering, 2011 - 2012

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Surface Consolidation of Maastricht Limestone by Means of Bacillus Sphaericus under Varying Treatment Conditions**
ERŞAN Y. Ç. , Wang J., Fraeye D., Boon N., De Belie N.
Journal of Materials in Civil Engineering, vol.32, no.11, 2020 (Journal Indexed in SCI Expanded)
- II. **Life cycle assessment of lightweight concrete containing recycled plastics and fly ash**

ERŞAN Y. Ç. , GÜLÇİMEN S., İmis T. N. , Saygin O., UZAL N.

EUROPEAN JOURNAL OF ENVIRONMENTAL AND CIVIL ENGINEERING, 2020 (Journal Indexed in SCI)

- III. **Nitrite producing bacteria inhibit reinforcement bar corrosion in cementitious materials**
Erşan Y. Ç. , Van Tittelboom K., Boon N., De Belie N.
Scientific Reports, vol.8, no.1, 2018 (Journal Indexed in SCI)
- IV. **Impact of air entraining admixtures on biogenic calcium carbonate precipitation and bacterial viability**
Bundur Z. B. , Amiri A., Ersan Y. Ç. , Boon N., De Belie N.
Cement and Concrete Research, vol.98, pp.44-49, 2017 (Journal Indexed in SCI)
- V. **Enhanced crack closure performance of microbial mortar through nitrate reduction**
Erşan Y. Ç. , Hernandez-Sanabria E., Boon N., De Belie N.
Cement and Concrete Composites, vol.70, pp.159-170, 2016 (Journal Indexed in SCI)
- VI. **Nitrate reducing CaCO₃ precipitating bacteria survive in mortar and inhibit steel corrosion**
Erşan Y. Ç. , Verbruggen H., De Graeve I., Verstraete W., De Belie N., Boon N.
Cement and Concrete Research, vol.83, pp.19-30, 2016 (Journal Indexed in SCI)
- VII. **Application of microorganisms in concrete: a promising sustainable strategy to improve concrete durability**
Wang J., Ersan Y. Ç. , Boon N., De Belie N.
Applied Microbiology and Biotechnology, vol.100, no.7, pp.2993-3007, 2016 (Journal Indexed in SCI)
- VIII. **Bio-Based Self-Healing Concrete: From Research to Field Application**
Tziviloglou E., Van Tittelboom K., Palin D., Wang J., Sierra-Beltran M. G. , Ersan Y. Ç. , Mors R., Wiktor V., Jonkers H. M. , Schlangen E., et al.
SELF-HEALING MATERIALS, vol.273, pp.345-385, 2016 (Journal Indexed in SCI)
- IX. **Microbially induced CaCO₃ precipitation through denitrification: An optimization study in minimal nutrient environment**
Erşan Y. Ç. , de Belie N., Boon N.
Biochemical Engineering Journal, vol.101, pp.108-118, 2015 (Journal Indexed in SCI)
- X. **Screening of bacteria and concrete compatible protection materials**
Erşan Y. Ç. , Da Silva F. B. , Boon N., Verstraete W., De Belie N.
Construction and Building Materials, vol.88, pp.196-203, 2015 (Journal Indexed in SCI)
- XI. **Self-protected nitrate reducing culture for intrinsic repair of concrete cracks**
Ersan Y. Ç. , Gruyaert E., Louis G., Lors C., De Belie N., Boon N.
Frontiers in Microbiology, vol.6, 2015 (Journal Indexed in SCI)
- XII. **The effect of seed sludge type on aerobic granulation via anoxic-Aerobic operation**
Erşan Y. Ç. , Erguder T. H.
Environmental Technology (United Kingdom), vol.35, no.23, pp.2928-2939, 2014 (Journal Indexed in SCI)
- XIII. **The effects of aerobic/anoxic period sequence on aerobic granulation and COD/N treatment efficiency**
Erşan Y. Ç. , Erguder T. H.
Bioresource Technology, vol.148, pp.149-156, 2013 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Self-Healing Performance of Biogranule Containing Microbial Self-Healing Concrete Under Intermittent Wet/Dry Cycles**
ERŞAN Y. Ç.
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.24, no.1, pp.323-332, 2021 (Journal Indexed in ESCI)
- II. **Overlooked Strategies in Exploitation of Microorganisms in the Field of Building Materials**
ERŞAN Y. Ç.
ECOLOGICAL WISDOM INSPIRED RESTORATION ENGINEERING, pp.19-45, 2019 (Refereed Journals of Other

Institutions)

- III. **Volume fraction, thickness, and permeability of the sealing layer in microbial self-healing concrete containing biogranules**
Erşan Y. Ç. , Palin D., Yengeç Tasdemir S. B. , Taşdemir K., Jonkers H. M. , Boon N., De Belie N.
Frontiers in Built Environment, vol.4, 2018 (Refereed Journals of Other Institutions)
- IV. **Resilient Denitrifiers Wink at Microbial Self Healing Concrete**
Erşan Y. Ç. , De Belie N., Boon N.
International Journal of Environmental Engineering, vol.2, pp.37-41, 2015 (Refereed Journals of Other Institutions)

Books & Book Chapters

- I. **Overlooked Strategies in Exploitation of Microorganisms in the Field of Building Materials**
Erşan Y. Ç.
in: Ecological Wisdom Inspired Restoration Engineering, Varenyam Achal, Abhijit Mukherjee, Editor, Springer-Verlag , Singapore, pp.19-45, 2019

Refereed Congress / Symposium Publications in Proceedings

- I. **Production of concrete compatible biogranules for self-healing concrete applications**
Sönmez M., Erşan Y. Ç.
Concrete Solutions 2019 – 7th International Conference on Concrete Repair , Cluj, Romania, 30 September - 02 October 2019, vol.289, no.1002, pp.1-8
- II. **Durability of self-healing concrete**
De Belie N., Van Belleggem B., Erşan Y. Ç. , Van Tittelboom K.
Concrete Solutions 2019 – 7th International Conference on Concrete Repair, Cluj-Napoca, Romania, 30 September - 02 October 2019, vol.289, no.1003, pp.1-8
- III. **Optimizing nutrient content of microbial self-healing concrete**
Erşan Y. Ç. , Akın Y.
6th International Symposium on Life-Cycle Civil Engineering, IALCCE 2018, Ghent, Belgium, 28 - 31 October 2018, pp.2241-2246
- IV. **Biotechnology offers more durable and sustainable cementitious composites**
ERŞAN Y. Ç.
Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Toulouse, France, 25 - 26 June 2018, vol.2, pp.379-386
- V. **Granules with activated compact denitrifying core (ACDC) for self-healing concrete with corrosion protection functionality**
Erşan Y. Ç. , Boon N., De Belie N.
Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Toulouse, France, 25 - 26 June 2018, vol.2, pp.475-484
- VI. **Healing depth and functionality regain of non-axenic granulated culture based self-healing concrete**
Erşan Y. Ç. , Palin D., Jonkers H., Boon N., De Belie N.
Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Toulouse, France, 25 - 26 June 2018, vol.2, pp.511-520
- VII. **Surface consolidation of natural stones by use of bio-agents and chemical consolidate**
Wang J, Fraeye D., Erşan Y. Ç. , De Mynck W., Boon N., De B. N.
14th International Conference on Durability of Building Materials and Components, Ghent, Belgium, 29 - 31 May 2017
- VIII. **Mechanical characteristics of the calcite precipitated in cracks of self-healing concrete studied by the indentation technique**

Gruyaert E., Louis G., Betrancourt D., ERŞAN Y. Ç. , Lors C., Damidot D., De Belie N.

E-MRS 2015 Fall meeting, Warszawa, Poland, 15 - 18 September 2015

- IX. Non Axenic NO₃ Reducing Culture Supersedes Axenic Cultures in Development of Microbial Self Healing Concrete**
Erşan Y. Ç. , De Belie N., Boon N.
E-MRS Fall Meeting 2015, Warszawa, Poland, 15 - 18 September 2015
- X. Microbial self healing concrete denitrification as an enhanced and environment friendly approach**
Erşan Y. Ç. , Boon N., De Belie N.
5th International Conference on Self-Healing Materials, North-Carolina, United States Of America, 22 - 24 June 2015
- XI. A rapjd and repeatable method for est ablishing the water permeability of cracked mortat specimens**
Palin D., Ersan Y. Ç. , Wiktor V., De Belie N., Jonkers H.
2015 fib Symposium: Concrete - Innovation and Design, Copenhagen, Denmark, 18 - 20 May 2015, pp.333-334
- XII. Ureolysis and denitrification based microbial strategies for self-healing concrete**
Ersan Y. Ç. , Wang J., Boon N., De Belie N.
5th International Conference on Concrete Repair, Belfast, United Kingdom, 1 - 03 September 2014, pp.59-64
- XIII. Aerobik Anoksik Periyot Sıralama Farkının Ardışık Kesikli Reaktörlerde Granül Üretimine ve Azot KOİ Arıtım Verimine Etkisi**
Erşan Y. Ç. , Erguder T. H.
ÇEVKOS VII, İstanbul, Turkey, 22 - 23 November 2012
- XIV. Effect of Seed Sludge Type on Aerobic Granulation and Treatment Efficiency of Granules**
Erşan Y. Ç. , Erguder T. H.
International Conference on Environmental Science and Technology, Texas, United States Of America, 25 - 29 June 2012

Supported Projects

De Belie N., De Graeve I., Project Supported by Private Organizations in Other Countries, Impact of Self-Healing Engineered Materials on Steel Corrosion in Reinforced Concrete, 2014 - 2018

De Belie N., Schmidt A., FP7 Project, Training Network for Self Healing Materials from Concepts to Market, 2012 - 2016
Bayramoğlu T. H. , TUBITAK Project, The Investigation of Aerobic Granulation and Its Use For Nitrogen Removal in Sequencing Batch Reactors, 2011 - 2012

Bayramoğlu T. H. , Project Supported by Higher Education Institutions, Investigation of Biological Nitrogen Removal with Granules, 2010 - 2011

Edit Congress and Symposium Activities

First International Conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering, Invited Speaker, Nanjing, China, 2020

Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Invited Speaker, Toulouse, France, 2018

Citations

Total Citations (WOS):263

h-index (WOS):9