

Doç. Dr. YUSUF ÇAĞATAY ERŞAN

Kişisel Bilgiler

İş Telefonu: [+90 312 297 7800](tel:+903122977800) Dahili: 116

E-posta: yusufersan@hacettepe.edu.tr

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

Posta Adresi: Hacettepe Üniversitesi Beytepe Kampüsü, Çevre Mühendisliği Bölümü, 06800, Beytepe, ANKARA

Uluslararası Araştırmacı ID'leri

ScholarID: MkdBJt4AAAAJ

ORCID: 0000-0003-4128-0195

Publons / Web Of Science ResearcherID: A-7227-2016

ScopusID: 56625890200

Yoksis Araştırmacı ID: 135831

Eğitim Bilgileri

Doktora, Universiteit Gent, Faculty of Bioscience Engineering, Department of Biochemical and Microbial Technology, Belçika 2013 - 2016

Yüksek Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, Türkiye 2011 - 2013

Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, Türkiye 2006 - 2011

Yabancı Diller

İngilizce, C2 Ustalık

Araştırma Alanları

Çevre Mikrobiyolojisi, Çevre Biyoteknolojisi

Akademik Unvanlar / Görevler

Dr. Öğr. Üyesi, Hacettepe Üniversitesi, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2019 - Devam Ediyor

Dr. Öğr. Üyesi, Abdullah Gül Üniversitesi, Mühendislik Fakültesi, İnşaat Mühendisliği, 2017 - 2019

Araştırma Görevlisi, Universiteit Gent, Faculty of Bioscience Engineering, Department of Biochemical and Microbial Technology, 2013 - 2016

Araştırma Görevlisi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 2011 - 2012

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- Production of calcium carbonate-precipitating biomass powder as self-healing additive in concrete and performance evaluation in mortar**
Zhu X., Sakarika M., Ganigué R., Van Tittelboom K., ERŞAN Y. Ç., Boon N., De Belie N.
Cement and Concrete Composites, cilt.138, 2023 (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, cilt.26, sa.7, ss.2722-2735, 2022 (SCI-Expanded)
- III. **Production and compatibility assessment of denitrifying biogranules tailored for self-healing concrete applications**
Sönmez M., Erşan Y. Ç.
CEMENT & CONCRETE COMPOSITES, cilt.126, 2022 (SCI-Expanded)
- IV. **The effect of chemical- versus microbial-induced calcium carbonate mineralization on the enhancement of fine recycled concrete aggregate: A comparative study**
Sönmez M., Ilcan H., Dundar B., Yıldırım G., Erşan Y. Ç., Şahmaran M.
JOURNAL OF BUILDING ENGINEERING, cilt.44, 2022 (SCI-Expanded)
- V. **Microbially induced desaturation and carbonate precipitation through denitrification: A review**
Lin W., Lin W., Cheng X., Chen G., ERŞAN Y. Ç.
Applied Sciences (Switzerland), cilt.11, sa.17, 2021 (SCI-Expanded)
- VI. **Compatibility and biomineralization oriented optimization of nutrient content in nitrate-reducing-biogranules-based microbial self-healing concrete**
Kardogan B., Sekercioglu K., ERŞAN Y. Ç.
Sustainability (Switzerland), cilt.13, sa.16, 2021 (SCI-Expanded)
- VII. **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, cilt.32, sa.11, 2020 (SCI-Expanded)
- VIII. **Nitrite producing bacteria inhibit reinforcement bar corrosion in cementitious materials**
Erşan Y. Ç., Van Tittelboom K., Boon N., De Belie N.
Scientific Reports, cilt.8, sa.1, 2018 (SCI-Expanded)
- IX. **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, cilt.98, ss.44-49, 2017 (SCI-Expanded)
- X. **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, cilt.70, ss.159-170, 2016 (SCI-Expanded)
- XI. **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, cilt.83, ss.19-30, 2016 (SCI-Expanded)
- XII. **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, cilt.100, sa.7, ss.2993-3007, 2016 (SCI-Expanded)
- XIII. **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, cilt.273, ss.345-385, 2016 (SCI-Expanded)
- XIV. **Microbially induced CaCO₃ precipitation through denitrification: An optimization study in minimal nutrient environment**
Erşan Y. Ç., de Belie N., Boon N.
Biochemical Engineering Journal, cilt.101, ss.108-118, 2015 (SCI-Expanded)
- XV. **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, cilt.88, ss.196-203, 2015 (SCI-Expanded)

- XVI. **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, cilt.6, 2015 (SCI-Expanded)
- XVII. **The effect of seed sludge type on aerobic granulation via anoxic-Aerobic operation**
Erşan Y. Ç., Erguder T. H.
Environmental Technology (United Kingdom), cilt.35, sa.23, ss.2928-2939, 2014 (SCI-Expanded)
- XVIII. **The effects of aerobic/anoxic period sequence on aerobic granulation and COD/N treatment efficiency**
Erşan Y. Ç., Erguder T. H.
Bioresource Technology, cilt.148, ss.149-156, 2013 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **Self-Healing Performance of Biogranule Containing Microbial Self-Healing Concrete Under Intermittent Wet/Dry Cycles**
ERŞAN Y. Ç.
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, cilt.24, sa.1, ss.323-332, 2021 (ESCI)
- II. **Overlooked Strategies in Exploitation of Microorganisms in the Field of Building Materials**
ERŞAN Y. Ç.
ECOLOGICAL WISDOM INSPIRED RESTORATION ENGINEERING, ss.19-45, 2019 (Hakemli Dergi)
- III. **Volume fraction, thickness, and permeability of the sealing layer in microbial self-healing concrete containing biogranules**
Erşan Y. Ç., Palin D., Yengec Tasdemir S. B., Taşdemir K., Jonkers H. M., Boon N., De Belie N.
Frontiers in Built Environment, cilt.4, 2018 (Scopus)
- IV. **Resilient Denitrifiers Wink at Microbial Self Healing Concrete**
Erşan Y. Ç., De Behe N., Boon N.
International Journal of Environmental Engineering, cilt.2, ss.37-41, 2015 (Hakemli Dergi)

Kitap & Kitap Bölümleri

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

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **Improvement of fine recycled aggregates by microbially induced CaCO₃ precipitation**
Arıkan E., Bilici S. N., Erşan Y. Ç.
6th Eurasia Waste Management Symposium, İstanbul, Türkiye, 24 - 26 Ekim 2022, cilt.1, ss.606-613
- II. **Pre-treatment procedure for effective bioleaching of metals from large waste printed circuit board (WPCB) pieces**
Konakçı R., Pekcan M., Erşan Y. Ç.
6th Eurasia Waste Management Symposium, İstanbul, Türkiye, 24 - 26 Ekim 2022, cilt.1, ss.68-76
- III. **A novel non-axenic granulated culture based microbial self-healing concrete**
Özbay B., Erşan Y. Ç.
6th Eurasia Waste Management Symposium, 24 - 26 Ekim 2022, cilt.1, ss.614-622
- IV. **Biogranules Simultaneously Hydrolysing Urea and Reducing Nitrate and Their Biomineralization**

Performance

Soluk M., Kardoğan B., Erşan Y. Ç.

6th Eurasia Waste Management Symposium, İstanbul, Türkiye, 24 - 26 Ekim 2022, cilt.1, ss.665-672

- V. **Concrete compatible biogranules: a novel healing agent for bio-based self-healing concrete**
Sönmez M., Erşan Y. Ç.
International Conference on Cement-Based Materials Tailored for a Sustainable Future, İstanbul, Türkiye, 27 - 29 Mayıs 2021, ss.302-310
- VI. **Self-protected bacteria for healing and corrosion inhibition in concrete**
Erşan Y. Ç., Boon N., De Belie N.
1st International conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering (MBCMG2020), Nanjing, Çin, 6 - 07 Kasım 2020, ss.52-53
- VII. **Durability of self-healing concrete**
De Belie N., Van Belleghem B., ERŞAN Y. Ç., Van Tittelboom K.
7th International Conference on Concrete Repair, Concrete Solutions 2019, Cluj-Napoca, Romanya, 30 Eylül - 02 Ekim 2019, cilt.289, sa.1003
- VIII. **Production of concrete compatible biogranules for self-healing concrete applications**
Sonmez M., ERŞAN Y. Ç.
7th International Conference on Concrete Repair, Concrete Solutions 2019, Cluj-Napoca, Romanya, 30 Eylül - 02 Ekim 2019, cilt.289, sa.1002
- IX. **Microbial self-healing as two-step mechanism for corrosion inhibition in cracked concrete**
De Belie N., Erşan Y. Ç., Van Tittelboom K.
73rd International Conference on Innovative Materials for Sustainable Civil Engineering, Nanjing, Çin, 26 - 30 Ağustos 2019, ss.94
- X. **Corrosion prevention in cracked concrete by denitrifying bacterial granules**
De Belie N., Erşan Y. Ç., Van Tittelboom K.
7th International Conference on Self-Healing Materials (ICSHM 2019), Yokohama, Japonya, 3 - 06 Haziran 2019, ss.109
- XI. **Optimizing nutrient content of microbial self-healing concrete**
Erşan Y. Ç., Akın Y.
6th International Symposium on Life-Cycle Civil Engineering, IALCCE 2018, Ghent, Belçika, 28 - 31 Ekim 2018, ss.2241-2246
- XII. **Healing depth and functionality regain of non-axenic granulated culture based self-healing concrete**
Erşan Y. Ç., Palın D., Jonkers H., Boon N., De Belie N.
Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Toulouse, Fransa, 25 - 26 Haziran 2018, cilt.2, ss.511-520
- XIII. **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, Fransa, 25 - 26 Haziran 2018, cilt.2, ss.379-386
- XIV. **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, Fransa, 25 - 26 Haziran 2018, cilt.2, ss.475-484
- XV. **Surface consolidation of natural stones by use of bio-agents and chemical consolidate**
Wang J., Fraeye D., Erşan Y. Ç., De Muynck W., Boon N., De B. N.
14th International Conference on Durability of Building Materials and Components, Ghent, Belçika, 29 - 31 Mayıs 2017
- XVI. **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, Polonya, 15 - 18 Eylül 2015

XVII. 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, Polonya, 15 - 18 Eylül 2015

XVIII. 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, Amerika Birleşik Devletleri, 22 - 24 Haziran 2015

XIX. A rapid and repeatable method for establishing the water permeability of cracked mortar specimens

Palin D., Erşan Y. Ç., Wiktor V., De Belie N., Jonkers H.

2015 fib Symposium: Concrete - Innovation and Design, Copenhagen, Danimarka, 18 - 20 Mayıs 2015, ss.333-334

XX. Ureolysis and denitrification based microbial strategies for self-healing concrete

Erşan Y. Ç., Wang J., Boon N., De Belie N.

5th International Conference on Concrete Repair, Belfast, Birleşik Krallık, 1 - 03 Eylül 2014, ss.59-64

XXI. Aerobik Anoksik Periyot Sıralama Farkının Ardışık Kesikli Reaktörlerde Granül Üretimine ve Azot KOİ Arıtım Verimine Etkisi

Erşan Y. Ç., Ergüder T. H.

ÇEVKOS VII, İstanbul, Türkiye, 22 - 23 Kasım 2012

XXII. Effect of Seed Sludge Type on Aerobic Granulation and Treatment Efficiency of Granules

Erşan Y. Ç., Ergüder T. H.

International Conference on Environmental Science and Technology, Texas, Amerika Birleşik Devletleri, 25 - 29 Haziran 2012

Desteklenen Projeler

De Belie N., De Graeve I., Diğer Ülkelerdeki Özel Organizasyonlar Tarafından Desteklenmiş Proje, Impact of Self-Healing Engineered Materials on Steel Corrosion in Reinforced Concrete, 2014 - 2018

De Belie N., Schmidt A., 7. Çerçeve Programı Projesi, Training Network for Self Healing Materials from Concepts to Market, 2012 - 2016

Bayramoğlu T. H., TÜBİTAK Projesi, The Investigation of Aerobic Granulation and Its Use For Nitrogen Removal in Sequencing Batch Reactors, 2011 - 2012

Bayramoğlu T. H., Yükseköğretim Kurumları Destekli Proje, Investigation of Biological Nitrogen Removal with Granules, 2010 - 2011

Metrikler

Yayın: 45

Atıf (WoS): 641

Atıf (Scopus): 805

H-İndeks (WoS): 11

H-İndeks (Scopus): 11

Kongre ve Sempozyum Katılımı Faaliyetleri

First International Conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering, Davetli Konuşmacı, Nanjing, Çin, 2020

Final Conference of RILEM TC 253-MCI on Microorganisms and Cementitious Materials Interactions, Davetli Konuşmacı,
Toulouse, Fransa, 2018