Doç. Dr. YUSUF ÇAĞATAY ERŞAN

Kişisel Bilgiler

İş Telefonu: +90 312 297 7800 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

I. **Variation of microbial self-healing performance of cementitious composites with their biogranule content**
SÖNMEZ TUĞLUCA M., ERŞAN Y. Ç., ŞAHMARAN M.
CEMENT & CONCRETE COMPOSITES, cilt.152, 2024 (SCI-Expanded)

II. **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)

III. **Life cycle assessment of lightweight concrete containing recycled plastics and fly ash**
ERŞAN Y. Ç., GÜLÇİMEN S., Imis T. N., Saygin O., UZAL N.
EUROPEAN JOURNAL OF ENVIRONMENTAL AND CIVIL ENGINEERING, cilt.26, sa.7, ss.2722-2735, 2022 (SCI-Expanded)

IV. **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)

V. **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)

VI. **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)

VII. **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)

VIII. **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)

IX. **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)

X. **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)

XI. **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)

XII. **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)

XIII. **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)

XIV. **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)

XV. **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)

XVI. **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)

XVII. **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)

XVIII. **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)

XIX. **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-POLITEKNIK 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 Belıe N., Boon N.
International Journal of Environmental Engineering, cilt.2, ss.37-41, 2015 (Hakemli Dergi)

Kitaplar

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 Bilimsel Toplantılarda Yayımlanmış Bildiriler

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, (Tam Metin Bildiri)

II. **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, (Tam Metin Bildiri)

III. **Pre-treatment procedure for effective bioleaching of metals from large waste printed circuit board (WPCB) pieces**
Konakcı R., Pekcan M., Erşan Y. Ç.
6th Eurasia Waste Management Symposium, İstanbul, Türkiye, 24 - 26 Ekim 2022, cilt.1, ss.68-76, (Tam Metin Bildiri)

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, (Tam Metin Bildiri)

V. **Improvement of Fine Recycled Aggregates by Microbially Induced CaCO₃ Precipitation**
Arikan E., Bilici S. N., ERŞAN Y. Ç.
6th EurAsia Waste Management Symposium (EWMS), İstanbul, Türkiye, 24 - 26 Ekim 2022, ss.606-613, (Tam Metin Bildiri)

VI. **Biogranules Simultaneously Hydrolyzing Urea and Reducing Nitrate and Their Biomineralization Performance**
Soluk M., Kardogan B., ERŞAN Y. Ç.
6th EurAsia Waste Management Symposium (EWMS), İstanbul, Türkiye, 24 - 26 Ekim 2022, ss.665-672, (Tam Metin Bildiri)

VII. **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, (Tam Metin Bildiri)

VIII. **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, (Özet Bildiri)

IX. **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, (Tam Metin Bildiri)

X. **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, (Tam Metin Bildiri)

XI. **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, (Özet Bildiri)

XII. **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, (Özet Bildiri)

XIII. **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, (Tam Metin Bildiri)

XIV. **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, (Tam Metin Bildiri)

XV. **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, (Tam Metin Bildiri)

XVI. **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, (Tam Metin Bildiri)

XVII. **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, (Tam Metin Bildiri)

XVIII. **Non Axenic NO3 Reducing Culture Supersedes Axenic Cultures in Development of Microbial Self Healing Concrete**
Erşan Y. Ç., De Belıe N., Boon N.
E-MRS Fall Meeting 2015, Warszawa, Polonya, 15 - 18 Eylül 2015, (Özet Bildiri)

XIX. **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, (Özet Bildiri)

XX. **Microbial self healing concrete denitrification as an enhanced and environment friendly approach**
Erşan Y. Ç., Boon N., De Belıe N.
5th International Conference on Self-Healing Materials, North-Carolina, Amerika Birleşik Devletleri, 22 - 24 Haziran 2015, (Özet Bildiri)

XXI. **A rapjd and repeatable method for est ablishing the water permeability of cracked mortar specimens**
Palin D., Ersan 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, (Tam Metin Bildiri)

XXII. **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, Birleşik Krallık, 1 - 03 Eylül 2014, ss.59-64, (Tam Metin Bildiri)

XXIII. **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, Türkiye, 22 - 23 Kasım 2012, (Özet Bildiri)

XXIV. **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, Amerika Birleşik Devletleri, 25 - 29 Haziran 2012, (Tam Metin Bildiri)

Desteklenen Projeler

De Belıe 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: 48
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