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Education Information

Doctorate, University College London, Biyokimya Mühendisliği, United Kingdom 2004 - 2010

Under Graduate, University College London, Biyokimya Mühendisliği, United Kingdom 2000 - 2004

Foreign Languages

English, C2 Proficiency

Research Areas

Biochemical Reaction Engineering, Bioprocess Separation Processes, Biotechnological Processes and Fermentation Technology

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Engineering, Bioengineering, 2017 - Continues

Assistant Professor, Marmara University, Faculty of Engineering, Bioengineering, 2012 - 2017

Research Assistant, University Of Exeter, Mühendislik, Sistem Biyoloji, 2011 - 2012

Research Assistant, University College London, Mühendislik, Biyokimya Mühendisliği, 2004 - 2008

Courses

Bilimsel Programlama, Under Graduate, 2018 - 2019, 2019 - 2020

Advising Theses

Sayar N. A. , Multi-objective optimization at a crude novel lipase catalyzed fame production: Kriging as an alternative to RSM, Doctorate, C.KULA(Student), 2018

Sayar N. A. , Biochemical characterization of newly identified lipases for utilization in lipase-catalysed reactions, Post Graduate, D.ELİF(Student), 2016

Sarıyar Akbulut B., SAYAR N. A. , Effect of temperature on osmolyte regulation strategy using engineering tools, Post Graduate, H.MANGAOĞLU(Student), 2013

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

- **Assessment of different carbon and salinity level on growth kinetics, lipid, and starch composition of *Chlorella vulgaris* SAG 211-12**

Kaplan E., SAYAR N. A. , KAZAN D., SAYAR A. A.

INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.17, pp.290-300, 2020 (Journal Indexed in SCI)

- **Process simulation-integrated optimization of lignocellulosic enzyme production**

Yılmaz-Sercinoglu Z., SAYAR N. A.

Biochemical Engineering Journal, vol.153, 2020 (Journal Indexed in SCI)

- **Techno-economic analysis of caffeine and catechins production from black tea waste**

SAYAR N. A. , DURMAZ ŞAM S., PİNAR O., Serper D., SARIYAR AKBULUT B., KAZAN D., SAYAR A. A.

Food And Bioproducts Processing, vol.118, pp.1-12, 2019 (Journal Indexed in SCI)

- **Multi-objective optimization of a novel crude lipase-catalyzed fatty acid methyl ester (FAME) production using low-order polynomial and Kriging models**

KULA C., SAYAR N. A.

INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.16, pp.657-665, 2019 (Journal Indexed in SCI)

- **Bioethanol Production From Turkish Hazelnut Husk Process Design and Economic Evaluation**

SAYAR N. A. , PİNAR O., KAZAN D., SAYAR A. A.

WASTE AND BIOMASS VALORIZATION, vol.10, pp.909-923, 2019 (Journal Indexed in SCI)

- **What Are the Multi-Omics Mechanisms for Adaptation by Microorganisms to High Alkalinity? A Transcriptomic and Proteomic Study of a Bacillus Strain with Industrial Potential**

ALTINIŞIK KAYA F. E. , Avci F. G. , SAYAR N. A. , KAZAN D., SAYAR A. A. , SARIYAR AKBULUT B.

OMICS-A JOURNAL OF INTEGRATIVE BIOLOGY, vol.22, pp.717-732, 2018 (Journal Indexed in SCI)

- **Manually modified design of experiments for early biocatalyst evaluation - lipase-catalysed fatty acid methyl ester production**

Kula C., Sayar N. A.

NEW BIOTECHNOLOGY, vol.44, 2018 (Journal Indexed in SCI)

- **Retro-techno-economic evaluation of acetic acid production using cotton stalk as feedstock**

SAYAR N. A. , KAZAN D., PİNAR O., SARIYAR AKBULUT B., SAYAR A. A.

JOURNAL OF MATERIAL CYCLES AND WASTE MANAGEMENT, vol.20, pp.2077-2088, 2018 (Journal Indexed in SCI)

- **Targeting a hidden site on class A beta-lactamases**

Avci F. G. , ALTINIŞIK KAYA F. E. , Karacan I., Karagoz D. S. , Ersahin S., Eren A., SAYAR N. A. , Ulu D. V. , ÖZKIRIMLI ÖLMEZ E., SARIYAR AKBULUT B.

JOURNAL OF MOLECULAR GRAPHICS & MODELLING, vol.84, pp.125-133, 2018 (Journal Indexed in SCI)

- **An OMIC approach to elaborate the antibacterial mechanisms of different alkaloids**

Avci F. G. , SAYAR N. A. , Akbulut B.

PHYTOCHEMISTRY, vol.149, pp.123-131, 2018 (Journal Indexed in SCI)

- **Assessment of hazelnut husk as a lignocellulosic feedstock for the production of fermentable sugars and lignocellulosic enzymes**

PİNAR O., Karaosmanoglu K., SAYAR N. A. , KULA C., KAZAN D., SAYAR A. A.

3 BIOTECH, vol.7, 2017 (Journal Indexed in SCI)

- **Response of Escherichia coli to Prolonged Berberine Exposure**

Gokgoz N. B. , Avci F. G. , Yoneten K. K. , Alaybeyoglu B., ÖZKIRIMLI ÖLMEZ E., SAYAR N. A. , KAZAN D., SARIYAR AKBULUT B.

MICROBIAL DRUG RESISTANCE, vol.23, pp.531-544, 2017 (Journal Indexed in SCI)

- **Organic solvent stable lipase from Cryptococcus diffluens D44 isolated from petroleum sludge**

Yılmaz D. E. , Sayar N. A.

JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC, vol.122, pp.72-79, 2015 (Journal Indexed in SCI)

- **Topological analysis of carbon flux during multi-stress adaptation in Halomonas sp AAD12**

Yoruk H. M. , SAYAR N. A.

ELECTRONIC JOURNAL OF BIOTECHNOLOGY, vol.18, pp.480-485, 2015 (Journal Indexed in SCI)

- **A sigmoidal model for biosorption of heavy metal cations from aqueous media**

Ozen R., SAYAR N. A. , DURMAZ ŞAM S., SAYAR A. A.

MATHEMATICAL BIOSCIENCES, vol.265, pp.40-46, 2015 (Journal Indexed in SCI)

- **Schizosaccharomyces pombe and its Ni(II)-insensitive mutant GA1 in Ni(II) uptake from aqueous solutions: a biodynamic model**

SAYAR N. A. , DURMAZ ŞAM S., KAZAN D., SAYAR A. A.

APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, vol.98, pp.6859-6869, 2014 (Journal Indexed in SCI)

- **Lipase Catalyzed Esterification Reactions-A Kinetic Model**

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NEW BIOTECHNOLOGY, vol.31, 2014 (Journal Indexed in SCI)

- **Enzyme mixture production from *Pycnoporus sanguineus* DMSZ 3024 using a lignocellulosic waste, Hazelnut husk: A case study for laccase and cellulase**

PINAR O., Kochan B., SAYAR N. A. , Karaos-Manoglu K., KAZAN D.

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- **Screening of Lipase Production Among Different Microorganisms**

Yilmaz D. E. , Yalcin H. T. , SAYAR N. A.

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- **Assessment of Berberine as a Multi-target Antimicrobial: A Multi-omics Study for Drug Discovery and Repositioning**

Karaosmanoglu K., SAYAR N. A. , KURNAZ I., SARIYAR AKBULUT B.

OMICS-A JOURNAL OF INTEGRATIVE BIOLOGY, vol.18, pp.42-53, 2014 (Journal Indexed in SCI)

- **Biosorption of Ni (II) by *Schizosaccharomyces pombe*: kinetic and thermodynamic studies**

DURMAZ ŞAM S., Sayar N. A. , Topal-Sarikaya A., SAYAR A. A.

BIOPROCESS AND BIOSYSTEMS ENGINEERING, vol.34, pp.997-1005, 2011 (Journal Indexed in SCI)

- **Process modelling and simulation of a transketolase mediated reaction: Analysis of alternative modes of operation**

Sayar N. A. , Chen B. H. , Lye G. J. , Woodley J. M.

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- **Modelling and simulation of a transketolase mediated reaction: Sensitivity analysis of kinetic parameters**

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- **Extraction of Co(II) and Ni(II) from concentrated HCl solutions using Alamine 336**

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- **Simulation- and optimisation-oriented modelling considerations for the extraction of Ni(II) from its acidic aqueous chloride solutions into Alamine 336-m-xylene systems**

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HYDROMETALLURGY, vol.95, pp.280-284, 2009 (Journal Indexed in SCI)

- **Extraction of Zn(II) from aqueous hydrochloric acid solutions into Alamine 336-m-xylene systems. Modeling considerations to predict optimum operational conditions**

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HYDROMETALLURGY, vol.86, pp.27-36, 2007 (Journal Indexed in SCI)

- **Reaction modelling and simulation to assess the integrated use of transketolase and omega-transaminase for the synthesis of an aminotriol**

Chen B. H. , Sayar A., Kaulmann U., Dalby P. A. , Ward J. M. , Woodley J. M.

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- **Extraction of cobalt(II) from aqueous hydrochloric acid solutions into alamine 336-m-xylene mixtures**

Filiz M., Sayar N. A. , Sayar A.

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Articles Published in Other Journals

- **Biosorption of Co(II) by *Schizosaccharomyces pombe*: Kinetic and thermodynamic studies for process design.**

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Journal of Bioprocess and Biotechniques, 2013 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- **Comparison of two medium optimization strategies: multi-objective pareto and global optimization for production of lignocellulolytic enzymes**
YILMAZ SERÇİNOĞLU Z., SAYAR N. A.
ECOMB2019, Trabzon, Turkey, 19 - 21 September 2019
- **Submerged fermentation of hazelnut husk via *Pycnoporus sanguineus* DMSZ 3024 for enzyme production**
Yılmaz Serçinoğlu Z., Sayar N. A.
ECOMB2019, Trabzon, Turkey, 19 - 21 September 2019
- **Manually modified design of experiments for early biocatalyst evaluation—lipase-catalysed fatty acid methyl ester production**
KULA C., SAYAR N. A.
18th European Congress on Biotechnology, 1 - 04 July 2018, vol.44, pp.120-121
- **Laccase production from hazelnut husk via submerged cultivation of white rot fungi**
YILMAZ Z., SAYAR N. A.
9th International Congress on Biocatalysis, 26 - 30 August 2018
- **Analytical approach to understanding the interferences of compounds to lignocellulolytic enzyme activity assays**
YILMAZ Z., SAYAR N. A.
9th International Congress on Biocatalysis, 26 - 30 August 2018
- **LIGNOCELLULOTIC ENZYME PRODUCTION FROM HAZELNUT HUSK VIA MULTI-STEP CATALYSIS OF WHITE-ROT FUNGI**
Yılmaz Serçinoğlu Z., Sayar N. A.
4th Multistep Enzyme Catalyzed Processes Congress (MECP18), Nord-Trøndelag, Norway, 19 - 22 March 2018
- **Beyaz Çürükçül Fungus Katalizörlüğünde Fındık Çotanağı Kullanarak Lignoselülolitik Enzim Üretimi**
YILMAZ Z., SAYAR N. A.
19. Uluslararası Katılımlı Ulusal Biyoteknoloji Kongresi, Eskişehir, Turkey, 1 - 03 December 2017
- **Growth medium optimization of *Cryptococcus albidus* D24 lipase by statistical design of experiments**
Uras A., Pinar O., Sayar N. A., Kazan D., Sayar A. A.
42nd Congress of the Federation-of-European-Biochemical-Societies (FEBS) on From Molecules to Cells and Back, Jerusalem, Israel, 10 - 14 September 2017, vol.284, pp.376
- **Production of laccase and cellulases by *pycnoporus sanguineus* (dmsz 3024) using hazelnut husk**
Yılmaz Serçinoğlu Z., Sayar N. A., Kazan D.
FEMS 2017 - 7th Congress of European Microbiologists (FEMS), Valencia, Spain, 9 - 13 July 2017
- **Immobilization of *Cryptococcus albidus* D24 lipase for enzymatic esterification**
Uras A., Sayar N. A., Kazan D., Sayar A. A.
41st FEBS Congress on Molecular and Systems Biology for a Better Life, Kusadasi, Turkey, 3 - 08 September 2016, vol.283, pp.224-225
- **Biodiesel production from waste cooking oil via optimised transesterification by a locally sourced lipase**
KULA C., SAYAR N. A.
Challenges in Building a Sustainable Biobased Economy, EcoBio Conference 2016, 6 - 09 March 2016
- **The plant derived alkaloid roemerin is involved in the modulation of motility in *E coli***
AYYILDIZ D., AVCI F. G., ARĞA K. Y., BÜDEYRİ GÖKGÖZ N., SAYAR N. A., KAZAN D., WOZNY K., BRÜGGER B., SARIYAR AKBULUT B.
BIOPHYSICAL SOCIETY 60TH ANNUAL MEETING, 27 February - 02 March 2016
- ***Cryptococcus diffluens* D44 lipase for biodiesel production from waste cooking oil via optimized transesterification**
KULA C., SAYAR N. A.
BEC 2015 VII. Bioengineering Congress, 19 - 21 November 2015
- **Optimization of process parameters for enzymatic hydrolysis of hazelnut husk**
YILMAZ SERÇİNOĞLU Z., PINAR O., SAYAR N. A., KAZAN D.
BEC 2015 VII. Bioengineering Congress, İzmir, Turkey, 19 - 21 November 2015
- **Optimization of process parameters for enzymatic hydrolysis of hazelnut husk**

YILMAZ Z., PİNAR O., SAYAR N. A. , KAZAN D.

7th International Bioengineering Congress, 19 - 21 November 2015

- **Lipase Catalyzed Esterification Reactions—A Kinetic Model**

KULA C., SAYAR N. A.

16th EUROPEAN CONGRESS ON BIOTECHNOLOGY, 13 - 16 July 2014

- **Enzyme mixture production from *Pycnoporus sanguineus* DMSZ 3024 using a lignocellulosic waste, Hazelnut husk: A case study for laccase and cellulase**

PİNAR O., KOÇHAN B., SAYAR N. A. , KARAOSMANOĞLU K., KAZAN D.

16th European Congress on Biotechnology, 13 - 16 July 2014

- **Computer based synthetic metabolic pathway construction by using biological databases**

YILMAZ Z., ZORLUĞOLU G., SARIYAR AKBULUT B., SAYAR N. A.

EMBL-EBI/Wellcome Trust Summer School in Bioinformatics, Cambridge, Canada, 23 - 27 June 2014

- **Characterization of Lipase Enzyme and Catalysed Esterification Reaction as a Model System**

KULA C., YILMAZ D. E. , YALÇIN H. T. , SAYAR N. A.

Enzymes for Biocatalysis, İstanbul, Turkey, 3 - 05 June 2014

- **Characterization of Lipase Enzyme and Catalyzed Esterification Reaction as a Model System**

KULA C., YILMAZ D. E. , YALÇIN H. T. , SAYAR N. A.

ENZYMES FOR BIOCATALYSIS, 3 - 05 June 2014

- **Hydrolysis of Hazelnut Husk by Using Commercial Enzymes for the Production of Fermentable Sugar**

KARAOSMANOĞLU K., PİNAR O., SAYAR N. A. , KAZAN D.

Vth International Bioengineering Congress (IBEC 2013), İzmir, Turkey, 12 - 15 November 2013

- **Mathematical Modelling of Ni²⁺ biosorption by *Schizosaccharomyces pombe* using Universal Sigmoid Approach**

ÖZEN R., DURMAZ ŞAM S., SAYAR N. A. , SAYAR A. A.

4th World Congress on Biotechnology, Raleigh, United States Of America, 23 - 25 September 2013

- **Developing robust and tractable in silico procedures for the discovery and assessment of novel pathways for synthetic biology**

SAYAR N. A. , SOYER O.

SB 5.0 Fifth International Meeting on Synthetic Biology, San Fransisko, United States Of America, 15 - 17 June 2011

- **A hybrid approach to bioreaction kinetic parameter estimation**

CHEN B. H. , SAYAR N. A. , WOODLEY J.

19th International Symposium on Chemical Reaction Engineering, Potsdam, Germany, 3 - 06 September 2006

- **Biocatalytic process evaluation using microscale processing techniques and process modelling**

CHEN B. H. , MICHELETTI M., SAYAR N. A. , DALBY P., BAGANZ F., LYE G., WOODLEY J.

6th European Symposium on Biochemical Engineering Science, Salzburg, Austria, 27 - 30 August 2006

- **Transketolase mediated carbon carbon bond formation**

CHEN B. H. , SAYAR N. A. , MICHELETTI M., WOODLEY J.

Industrial Biotransformations, Barcelona, Spain, 4 - 05 May 2006

- **Reaction modelling and simulation to assess the integrated use of transketolase and transaminase for the synthesis of an aminotriol**

CHEN B. H. , SAYAR N. A. , KAULMANN U., DALBY P., WARD J., WOODLEY J.

Multistep Enzyme Catalyzed Processes, Graz, Austria, 18 - 21 April 2006

Supported Projects

Kula C., Sayar N. A. , Project Supported by Higher Education Institutions, Lipazla katalizlenen bir esterifikasyon reaksiyonu Kinetik analizi proses tasarımı ve proses metriklerinin değerlendirilmesi, 2015 - 2018

Sarıyar Akbulut B., Sayar N. A. , Project Supported by Higher Education Institutions, Antimikrobiyal özelliğe sahip farklı alkaloitlerin hücre içi hedeflerinin gerçek zamanlı polimeraz zincir reaksiyonu ve mikrodizi teknolojileri ile belirlenmesi, 2014 - 2017

Sarıyar Akbulut B., Kazan D., Sayar N. A. , Other Supported Projects, Antimikrobiyel Ajanların Etkisini Anlamak İçin

Citations

Total Citations (WOS):224

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Invited Talks

OMICS, Conference, İstanbul Üniversitesi, Turkey, July 2013