

## Asst. Prof. NURTEN ŞAHAN

### Personal Information

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### International Researcher IDs

ORCID: 0000-0001-6091-0055

ScopusID: 56087881100

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### Education Information

Doctorate, Cukurova University, Fen Bilimleri Enstitüsü, Kimya, Turkey 2011 - 2018

Postgraduate, Cukurova University, Fen Bilimleri Enstitüsü, Kimya, Turkey 2007 - 2011

Undergraduate, Cukurova University, Fen Edebiyat Fakültesi, Kimya, Turkey 2003 - 2007

### Foreign Languages

French, B1 Intermediate

English, C1 Advanced

German, B2 Upper Intermediate

### Certificates, Courses and Trainings

Education Management and Planning, Summer Course on Exergy and Its Applications, Yaşar University, İzmir, 2018

Education Management and Planning, Summer School, Exergy and its Applications, Yeditepe University, 2017

Education Management and Planning, Short Term Scientific Mission, Zaragoza University, Mechanical Engineering Department, Spain,, 2016

Education Management and Planning, Visiting Researcher, Minnesota University, Mechanical Engineering Department, Solar Energy Laboratory, 2015

Other, Training on Applied Patent Research, EBILTEM, 2013

Education Management and Planning, Short Term Scientific Mission, Paris Est University, Center of studies and Researches of Thermic, Enviroment and Systems, 2012

Other, Training on Material Safety Data Shield (MSDS), SASA, 2012

Other, Training on Waste Management, SASA, 2012

Education Management and Planning, Training School, Energy efficiency in renewable energy systems in buildings (NeCoE-PCM), Fraunhofer Institute, Freiburg Germany, supported by EU RTD, 2011

Education Management and Planning, Internship, General Directorate of State Hydraulic Works, Adana, 2006

Other, International Organization for Standardization (ISO-9001-2000), KOBIGEM, 2006

Other, Training on Hazard Analysis and Critical Control Points Certificate (HACCP), KOBIGEM, 2006

Other, Management of quality systems training and documentation training certificate, KOBIGEM, 2006

## Dissertations

Doctorate, Development of Phase Change Material Nano Composites for Thermal Management of Lithium Ion Batteries Used in Hybrid-Electric Vehicles, Cukurova University, Fen Bilimleri, Kimya, 2018

Postgraduate, Investigation of Using Nano Particles with Phase Change Materials, Cukurova University, Fen Bilimleri, Kimya, 2011

## Academic Titles / Tasks

Assistant Professor, Cukurova University, Fen-Edebiyat Fakültesi, Kimya, 2019 - Continues

## Courses

Staj Dersi (Internship Program), Undergraduate, 2018 - 2019

Mühendislik Kimyası( Chemistry for Engineering), Undergraduate, 2018 - 2019

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Flexible phase change material packages for green transportation vehicles**  
Şahan N., Mazman M., Kaypmaz C., Beyhan B., Paksoy H. O.  
JOURNAL OF POWER SOURCES, no.576, pp.1-9, 2023 (SCI-Expanded)
- II. **Designing behenic acid microcapsules as novel phase change material for thermal energy storage applications at medium temperature**  
ŞAHAN N., Paksoy H. Ö.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.5, pp.3922-3933, 2020 (SCI-Expanded)
- III. **Direct impregnation and characterization of Colemanite/Ulexite-Mg(OH)(2) paraffin based form-stable phase change composites**  
Horpan M. S., ŞAHAN N., Paksoy H. Ö., Sivrikaya O., Güneş M.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.195, pp.346-352, 2019 (SCI-Expanded)
- IV. **Encapsulation of stearic acid with different PMMA-hybrid shell materials for thermotropic materials**  
Şahan N., Nigon D., Mantell S. C., Davidson J. H., Paksoy H. Ö.  
SOLAR ENERGY, vol.184, pp.466-476, 2019 (SCI-Expanded)
- V. **Developing microencapsulated 12-hydroxystearic acid (HSA) for phase change material use**  
Şahan N., Paksoy H.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.42, no.10, pp.3351-3360, 2018 (SCI-Expanded)
- VI. **Novel shapeable phase change material (PCM) composites for thermal energy storage (TES) applications**  
ŞAHAN N., Paksoy H. Ö.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.174, pp.380-387, 2018 (SCI-Expanded)
- VII. **Investigating thermal properties of using nano-tubular ZnO powder in paraffin as phase change material composite for thermal energy storage**  
ŞAHAN N., Paksoy H.  
COMPOSITES PART B-ENGINEERING, vol.126, pp.88-93, 2017 (SCI-Expanded)
- VIII. **Determining influences of SiO<sub>2</sub> encapsulation on thermal energy storage properties of different phase change materials**  
Şahan N., Paksoy H.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.159, pp.1-7, 2017 (SCI-Expanded)
- IX. **The effects of various carbon derivative additives on the thermal properties of paraffin as a phase change material**  
Şahan N., Fois M., Paksoy H.

INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.40, no.2, pp.198-206, 2016 (SCI-Expanded)

- X. **Improving thermal conductivity phase change materials-A study of paraffin nanomagnetite composites**  
Şahan N., Fois M., Paksoy H. Ö.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.137, pp.61-67, 2015 (SCI-Expanded)
- XI. **Unconventional experimental technologies available for phase change materials (PCM) characterization. Part 1. Thermophysical properties**  
CABEZA L. F., BARRENECHE C., MARTORELL I., MIRO L., SARI-BEY S., FOIS M., PAKSOY H. Ö., SAHAN N., WEBER R., CONSTANTINESCU M., et al.  
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.43, pp.1399-1414, 2015 (SCI-Expanded)
- XII. **Thermal enhancement of paraffin as a phase change material with nanomagnetite**  
Şahan N., PAKSOY H. Ö.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.126, pp.56-61, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Determining influences of different stirring methods for encapsulating stearic acid with SiO<sub>2</sub> shell for thermal energy storage applications**  
Şahan N., Paksoy H. Ö.  
Oxford Open Energy, vol.1, no.00, pp.1-5, 2023 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Endüstriyel Kimya Laboratuvarı**  
KILINÇEKER G., ŞAHAN N.  
Akademisyen Kitabevi, 2023
- II. **Encyclopedia of Energy Storage**  
Paksoy H. Ö., Şahan N., Konuklu Y.  
in: Encyclopedia of Energy Storage, Luisa F. Cabeza, Editor, Elsevier Science, Oxford/Amsterdam , Berlin, pp.498-525, 2022
- III. **Role of energy storage in 100% renewable urban areas**  
Paksoy H. Ö., Şahan N., Koçak B.  
in: Accelerating the Transition to a 100% Renewable Energy Era, Tanay Sıdkı Uyar, Editor, Springer, London/Berlin , Berlin, pp.411-437, 2020
- IV. **Latent Heat Storage Systems**  
Konuklu Y., Şahan N., PAKSOY H. Ö.  
in: Comprehensive Energy Systems, Dinçer İ., Editor, Elsevier, Ottawa, pp.396-434, 2018

## Refereed Congress / Symposium Publications in Proceedings

- I. **Activated Carbon Coconut Shell as Base of Anode Battery: A Review**  
Saputro E. A., Nurherdiana S. D., Rahma Wardhani D. S., Şahan N.  
The 7th International Conference on Science Technology, Manado, Indonesia, 5 September - 07 October 2023, vol.16, pp.344-360
- II. **INVESTIGATING ENCAPSULATION OF PHASE CHANGE MATERIALS WITH CALCIUM CARBONATE SHELLS FOR THERMAL ENERGY STORAGE APPLICATIONS**  
Şahan N.  
The 2nd World Energy Storage Conference, İstanbul, Turkey, 18 - 21 December 2022, pp.1-3

- III. **Investigation of Thermal/Physical Properties of Colemanite/Ulexite-Mg(OH)<sub>2</sub> Paraffin Composite Blends**  
 Horpan M. S., ŞAHAN N., PAKSOY H. Ö., Güneş M.  
 14. INTERNATIONAL CONFERENCE ON ENERGY STORAGE, Adana, Turkey, 25 - 28 April 2018, pp.102-103
- IV. **Thermal Management System of Li-Ion Battery for Electric-hybrid Vehicles with Advanced Nano-PCMs Composites**  
 ŞAHAN N., PAKSOY H. Ö., Mazman M., Kayıpmaz C., Beyhan B.  
 14. INTERNATIONAL CONFERENCE ON ENERGY STORAGE, Adana, Turkey, 25 - 28 April 2018, pp.112-113
- V. **Nano Materials for Thermal Enhancement of Phase Change Materials for Thermal Energy Storage**  
 ŞAHAN N., PAKSOY H. Ö.  
 SolarTR 2014 Conference & Exhibition, İzmir, Turkey, 19 - 21 November 2014, pp.107-108
- VI. **NANO MATERIALS FOR THERMAL ENHANCEMENT OF PHASE CHANGE MATERIALS FOR THERMAL ENERGY STORAGE**  
 Şahan N., PAKSOY H. Ö.  
 SOLARTR 2014 Conference & Exhibition, İzmir, Turkey, 19 - 21 November 2014, pp.376-379
- VII. **Thermal Properties of Paraffin-Nano Magnetite Composite for Thermal Energy Storage Applications**  
 ŞAHAN N., PAKSOY H. Ö.  
 10th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 17 - 21 June 2014, pp.100-101
- VIII. **Determining Thermal Conductivity and Diffusivity of Paraffin Composites as Phase Change Materials for Thermal Energy Storage**  
 ŞAHAN N., FOIS M., PAKSOY H. Ö.  
 2nd International Energy Conference on Sustainable Energy Storage, Dublin, Ireland, 19 - 21 June 2013, pp.113-114
- IX. **Nano Magnetite Paraffin Composite as a PCM**  
 ŞAHAN N., PAKSOY H. Ö.  
 12th International Conference Energy Storage, Innostock 2012, Lleida, Spain, 16 - 18 May 2012, pp.119-120
- X. **Thermally enhanced paraffin for solar applications**  
 Paksoy H., ŞAHAN N.  
 1st International Conference on Solar Heating and Cooling for Buildings and Industry (SHC), San-Francisco, Costa Rica, 9 - 11 July 2012, vol.30, pp.350-352
- XI. **Preparing of nano magnetite-paraffin and activated carbon-paraffin composites and determining of thermal properties of these composites**  
 ŞAHAN N., PAKSOY H. Ö.  
 25th National Chemistry Congress, Erzurum, Turkey, 27 June - 02 July 2011, pp.188-118
- XII. **New Binary Alkenes Mixtures As PCMs For Cooling Applications**  
 Yılmaz S., Sayın K., Gök Ö., Yılmaz M., Beyhan B., ŞAHAN N., PAKSOY H. Ö.  
 International Conference on Thermal Energy Storage, Effstock, Stockholm, Sweden, 30 May - 03 June 2009, pp.112-115
- XIII. **Phase Change Material Applications for Domestic Appliances**  
 Gök Ö., Yılmaz M., Yılmaz S., Turgut B., Mazman M., Beyhan B., ŞAHAN N., PAKSOY H. Ö.  
 International Conference on Thermal Energy Storage, Effstock, Stockholm, Sweden, 30 May - 03 June 2009, pp.36-38
- XIV. **Increasing energy efficiency of domestic appliances by thermal energy storage method with phase change materials**  
 Gök Ö., Yılmaz M., Yılmaz S., Turgut B., Mazman M., Beyhan B., ŞAHAN N., PAKSOY H. Ö., Evliya H.  
 VII. National Clean Energy Symposium, UTES 2008, İstanbul, Turkey, 17 - 19 December 2008, pp.12-15
- XV. **Binary Alkenes Mixtures As PCMs For Cooling Applications**  
 Yılmaz S., Gök Ö., Beyhan B., ŞAHAN N., PAKSOY H. Ö.  
 11st National Chemical Engineering Congress, Malatya, Turkey, 26 - 29 August 2008, pp.14

## Supported Projects

ŞAHAN N., EU Framework Program Project, INPATH-TES PhD on Innovation Pathways for Thermal Energy Storage, 2015 - 2018

ŞAHAN N., Other International Funding Programs, Thermotropic Materials for Low Cost Solar Thermal Collectors, 2015 - 2016

PAKSOY H. Ö., ŞAHAN N., EU Framework Program Project, Next generation cost effective phase change materials for increased energy efficiency in renewable energy systems in buildings (NeCoE-PCM), 2013 - 2013

ŞAHAN N., TUBITAK Project, Thermal Management of Lithium Ion Batteries Used in Hybrid/Electric Vehicles with Phase Change Materials, 2010 - 2013

## Activities in Scientific Journals

Oxford Open Energy , Committee Member, 2020 - Continues

## Metrics

Publication: 32

Citation (WoS): 559

Citation (Scopus): 669

H-Index (WoS): 9

H-Index (Scopus): 10

## Congress and Symposium Activities

Hasan Kalyoncu Üniversitesi- Re-New Talks , Invited Speaker, Gaziantep, Turkey, 2022

INTERNATIONAL RENEWABLE ENERGY WORKSHOP, Invited Speaker, Mardin, Turkey, 2021

14.INTERNATIONAL CONFERENCE ON ENERGY STORAGE, ENERSTOCK 2018, Attendee, Adana, Turkey, 2018

Powering the Energy Transition Conference: the role of Renewable Energy and Energy Efficiency, Attendee, Ankara, Turkey, 2017

Meeting of Turkey Innovation Week, Attendee, Adana, Turkey, 2015

8th Renewable Energy Resources Symposium,, Attendee, Turkey, 2015

Annex 25 - ECES IA - IEA, , 7th Experts Meeting, Attendee, Adana, Turkey, 2013

Personal Development Seminar, European Student's Forum (AEGEE), Attendee, Adana, Turkey, 2006

## Scholarships

Grant for short scientific mission, supported by COST Action TU0802 project, European Commission, 2012 - Continues

## Awards

ŞAHAN N., First degree award for completing exergy and its application summer course, Exergy and its application summer course, 2017, June 2017

ŞAHAN N., Best poster award, 12th International Conference on Energy Storage, Poster titled `Nano Magnetite Paraffin Composite as a PCM, 2012, Leida, Spain, 12th International Conference on Energy Storage, May 2012

ŞAHAN N., Honor Degree Student, Çukurova University, June 2004

ŞAHAN N., Honor Degree Student, Çukurova University, September 2003