

## Assoc. Prof. Nader JAVANI

### Personal Information

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### Education Information

Doctorate, Ontario Canada Üniversitesi, Engineering And Applied Science, Canada 2010 - 2013

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Investigation of Energy Storage Options for Thermal Management in Hybrid Electric Vehicles, Ontario Canada Üniversitesi, Makine Muhendisligi, Energy And Thermofluids Engineering, 2013

### Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2021 - Continues

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2014 - 2021

### Courses

Renewable Energy Systems, Undergraduate, 2021 - 2022

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

- I. **Green hydrogen production potential in Turkey with wind power**  
Karayel G. K., JAVANI N., DINCER İ.  
INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.20, no.2, pp.129-138, 2023 (SCI-Expanded)
- II. **Sustainable city concept based on green hydrogen energy**  
Dincer I., JAVANI N., Karayel K.  
SUSTAINABLE CITIES AND SOCIETY, vol.87, 2022 (SCI-Expanded)

- III. **Guest editorial for special issue on "Progress in Energy Systems"**  
JAVANI N., KAYGUSUZ K.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.46, no.14, pp.20718, 2022 (SCI-Expanded)
- IV. **Dynamic simulation and optimization of a novel energy system with Hydrogen energy storage for hotel buildings**  
Farrokhi M., JAVANI N., Motallebzadeh R., Ebrahimpour A.  
ENERGY, vol.257, 2022 (SCI-Expanded)
- V. **Dynamic 4E (energy, exergy, economic and environmental) analysis and tri-criteria optimization of a building-integrated plant with latent heat thermal energy storage**  
Gholamian E., Zare V., JAVANI N., Ranjbar F.  
ENERGY CONVERSION AND MANAGEMENT, vol.267, 2022 (SCI-Expanded)
- VI. **An experimental study on polymer cathode materials in lead-acid battery energy storage systems**  
Jahani D., Nazari A., Panah M. Y., JAVANI N., Moharaminezhad F.  
KOREAN JOURNAL OF CHEMICAL ENGINEERING, vol.39, no.8, pp.2099-2108, 2022 (SCI-Expanded)
- VII. **Transient simulation and techno-economic assessment of a near-zero energy building using a hydrogen storage system and different backup fuels**  
Izadi A., Shahafve M., Ahmadi P., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.74, pp.31927-31940, 2022 (SCI-Expanded)
- VIII. **Performance assessment of a direct steam solar power plant with hydrogen energy storage: An exergoeconomic study**  
Nafchi F. M., Baniasadi E., Afshari E., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.62, pp.26023-26037, 2022 (SCI-Expanded)
- IX. **Editorial for the special issue progress in hydrogen production, storage and distribution**  
Ahmadi P., Javani N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.62, pp.25879, 2022 (SCI-Expanded)
- X. **Thermodynamic analysis of a novel biomass-driven trigeneration system using different biomass resources**  
Parsa S., Jafarmadar S., Neshat E., JAVANI N.  
BIOMASS CONVERSION AND BIOREFINERY, 2022 (SCI-Expanded)
- XI. **Effective use of geothermal energy for hydrogen production: A comprehensive application**  
Karayel G. K., JAVANI N., DİNCER İ.  
ENERGY, vol.249, 2022 (SCI-Expanded)
- XII. **Green hydrogen production potential for Turkey with solar energy**  
Karayel K., JAVANI N., DİNCER İ.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.45, pp.19354-19364, 2022 (SCI-Expanded)
- XIII. **Thermodynamic analysis of a parabolic trough solar power plant integrated with a biomass-based hydrogen production system**  
Burulday M. E., Mert M. S., JAVANI N.  
International Journal of Hydrogen Energy, vol.47, pp.19481-19501, 2022 (SCI-Expanded)
- XIV. **Analysis and optimization of a fuel cell integrated with series two-stage organic Rankine cycle with zeotropic mixtures**  
Azad A., Fakhari I., Ahmadi P., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.5, pp.3449-3472, 2022 (SCI-Expanded)
- XV. **Hydropower energy for green hydrogen production in Turkey**  
Karayel G. K., JAVANI N., DİNCER İ.  
International Journal of Hydrogen Energy, 2022 (SCI-Expanded)
- XVI. **Hydrogen farm concept: A Perspective for Turkey**  
DİNCER İ., JAVANI N., Karayel G. K.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.45, no.13, pp.18309-18317, 2021 (SCI-Expanded)
- XVII. **Dynamic simulation of an integrated energy system for buildings in cold climates with thermal energy storage**

- Farrokhi M., Motallebzadeh R., JAVANI N., Ebrahimpour A.  
SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, vol.47, 2021 (SCI-Expanded)
- XVIII. An innovative solar-powered natural gas-based compressed air energy storage system integrated with a liquefied air power cycle**  
Sadeghi S., Ghandehariun S., Rezaie B., JAVANI N.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.45, pp.16294-16309, 2021 (SCI-Expanded)
- XIX. Exergy analysis of a plate heat exchanger with a new geometric design**  
Shamsdanesh R., Jafarmadar S., JAVANI N.  
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol.145, no.3, pp.1203-1213, 2021 (SCI-Expanded)
- XX. Editorial - WESCE-2019**  
JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.46, no.30, pp.16249, 2021 (SCI-Expanded)
- XXI. Energy and exergy analyses of an ignition engine with improved management system codes**  
Fekari A., JAVANI N.  
INTERNATIONAL JOURNAL OF EXERGY, vol.34, no.2, pp.196-207, 2021 (SCI-Expanded)
- XXII. Development of a new integrated energy system with compressed air and heat storage options**  
Karapekmez A., DİNCER İ., JAVANI N.  
JOURNAL OF ENERGY STORAGE, vol.32, 2020 (SCI-Expanded)
- XXIII. Thermodynamic modeling of a solar energy based combined cycle with rock bed heat storage system**  
ÖZTÜRK M., DİNCER İ., JAVANI N.  
Solar Energy, vol.200, pp.51-60, 2020 (SCI-Expanded)
- XXIV. Design and analysis of a combined floating photovoltaic system for electricity and hydrogen production**  
Temiz M., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.45, no.5, pp.3457-3469, 2020 (SCI-Expanded)
- XXV. Application of a ground source heat pump system with PCM-embedded radiant wall heating for buildings**  
Oruc O., DİNCER İ., JAVANI N.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.12, pp.6542-6550, 2019 (SCI-Expanded)
- XXVI. A parametric study of polymer membrane electrolyser performance, energy and exergy analyses**  
Nafchi F. M., Afshari E., Baniasadi E., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.44, no.34, pp.18662-18670, 2019 (SCI-Expanded)
- XXVII. Investigation and optimization of solar volumetric absorption systems using nanoparticles**  
Bonab H. B., Javani N.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.194, pp.229-234, 2019 (SCI-Expanded)
- XXVIII. Exergoeconomic optimisation of an air cooled heat exchanger with copper oxide nanoparticles**  
JAVANI N.  
INTERNATIONAL JOURNAL OF EXERGY, vol.30, no.3, pp.259-274, 2019 (SCI-Expanded)
- XXIX. Performance assessment of a solar hydrogen and electricity production plant using high temperature PEM electrolyzer and energy storage**  
Nafchi F. M., BANIASADI E., AFSHARI E., JAVANI N.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.11, pp.5820-5831, 2018 (SCI-Expanded)
- XXX. Hydrogen production via supercritical water gasification of almond shell over algal and agricultural hydrochars as catalysts**  
Safari F., JAVANI N., YUMURTACI Z.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.2, pp.1071-1080, 2018 (SCI-Expanded)
- XXXI. Squeeze film characteristics of Ferro-coupled stress inertial fluids in conical plates**  
Daliri M., Javani N.  
INDUSTRIAL LUBRICATION AND TRIBOLOGY, vol.70, no.5, pp.872-877, 2018 (SCI-Expanded)
- XXXII. Special issue section on "The 2nd International Conference on Energy Systems (ICES-2016), 21-23 December 2016, Istanbul, Turkey"**

- JAVANI N., YUMURTACI Z.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.2, pp.1037, 2018 (SCI-Expanded)
- XXXIII. **Exergoeconomic analysis and multi objective optimization of a solar based integrated energy system for hydrogen production**  
Khanmohammadi S., Heidarnejad P., JAVANI N., GANJEHSARABI H.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.33, pp.21443-21453, 2017 (SCI-Expanded)
- XXXIV. **Thermal characteristics of n-octadecane and carbon nanotubes mixture**  
Shuja S. Z., Yilbas B. S., Javani N., Ahmed S.  
APPLIED THERMAL ENGINEERING, vol.98, pp.646-655, 2016 (SCI-Expanded)
- XXXV. **Numerical Modeling of Submodule Heat Transfer With Phase Change Material for Thermal Management of Electric Vehicle Battery Packs**  
Javani N., Dincer I., Naterer G. F.  
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, vol.7, no.3, 2015 (SCI-Expanded)
- XXXVI. **New latent heat storage system with nanoparticles for thermal management of electric vehicles**  
Javani N., Dincer I., Naterer G. F.  
JOURNAL OF POWER SOURCES, vol.268, pp.718-727, 2014 (SCI-Expanded)
- XXXVII. **Modeling of passive thermal management for electric vehicle battery packs with PCM between cells**  
Javani N., Dincer I., Naterer G. F., Rohrauer G. L.  
APPLIED THERMAL ENGINEERING, vol.73, no.1, pp.307-316, 2014 (SCI-Expanded)
- XXXVIII. **Heat transfer and thermal management with PCMs in a Li-ion battery cell for electric vehicles**  
Javani N., Dincer I., Naterer G. F., Yilbas B. S.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.72, pp.690-703, 2014 (SCI-Expanded)
- XXXIX. **Exergy analysis and optimization of a thermal management system with phase change material for hybrid electric vehicles**  
Javani N., Dincer I., Naterer G. F., Yilbas B. S.  
APPLIED THERMAL ENGINEERING, vol.64, pp.471-482, 2014 (SCI-Expanded)
- XL. **Exergy analysis of natural gas/DME combustion in homogeneous charge compression ignition engines (HCCI) using zero-dimensional model with detailed chemical kinetics mechanism**  
Jafarmadar S., Javani N.  
INTERNATIONAL JOURNAL OF EXERGY, vol.15, no.3, pp.363-381, 2014 (SCI-Expanded)
- XLI. **Thermodynamic analysis of waste heat recovery for cooling systems in hybrid and electric vehicles**  
Javani N., Dincer I., Naterer G. F.  
ENERGY, vol.46, no.1, pp.109-116, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Design and optimization of a novel wind-powered liquefied air energy storage system integrated with a supercritical carbon dioxide cycle**  
Sadeghi S., JAVANI N., Ghandehariun S., Ahmadi P.  
ENERGY STORAGE, vol.3, no.6, 2021 (ESCI)
- II. **Experimental Study of Management Systems for Emission Reduction in Ignition Engines**  
Fekari A., Javani N., Jafarmadar S.  
INTERNATIONAL JOURNAL OF ENGINEERING, vol.33, no.7, pp.1347-1353, 2020 (ESCI)
- III. **The Performance of Squeeze Film between Parallel Triangular Plates with a Ferro-Fluid Couple Stress Lubricant**  
Toloian A., Daliri M., JAVANI N.  
ADVANCES IN TRIBOLOGY, vol.2020, 2020 (ESCI)
- IV. **Wind Turbine Blade Flapwise and Edgewise Bending Vibration Analyses Using Energy Methods**  
Çelik A., Javani N.  
JOURNAL OF THERMAL ENGINEERING, vol.2, no.6, pp.983-989, 2016 (ESCI)

## Books & Book Chapters

- I. **Thermal Management of Electric Vehicle Battery Systems**  
DİNCER İ., Hamut H. S., JAVANI N.  
John Wiley Sons Ltd, 2019

## Refereed Congress / Symposium Publications in Proceedings

- I. **Solar-Driven Hydrogen Production and Injection in Lake Tuz Natural Gas Storage Caverns**  
Temiz M., JAVANI N.  
4th International Hydrogen Technologies Congress, 20 - 23 June 2019
- II. **Energy and exergy analyses of a PCM embedded radiant wall heating system**  
oruç O., DİNCER İ., JAVANI N.  
10th International Exergy, Energy and Environment Symposium (IEEES-10), 1 - 04 July 2018
- III. **Thermodynamic Modeling of a Solar Based Combined Cycle with Rock Bed Heat Storage System**  
ÖZTÜRK M., DİNCER İ., JAVANI N.  
14. International Conference on Energy Storage, 25 - 28 April 2018
- IV. **Thermodynamic Study of an Integrated System with Compressed Air and Heat Storage Units**  
KARAPEKMEZ A., DİNCER İ., JAVANI N.  
14. International Conference on Energy Storage, 25 - 28 April 2018
- V. **Finite Time Thermodynamic Analysis of a Solar Hydrogen and Electricity Production Plant Using High Temperature PEM Electrolyzer**  
Moradi Nafchi F., Baniasadi E., JAVANI N.  
9th International Exergy, Energy and Environment Symposium, 14 - 17 May 2017
- VI. **THERMODYNAMIC ANALYSIS OF MAGNETIC COOLING SYSTEMS IN HYBRID ELECTRIC VEHICLE**  
Ganjehsarabi H., JAVANI N.  
Second International Conference on Energy Systems, 21 - 23 December 2016
- VII. **Numerical and Analytical Study of Natural Frequencies in a Wind Turbine Blade Using Finite Element and Energy Methods**  
ÇELİK A., JAVANI N., KESKİN U.  
01 June 2016, pp.865-871
- VIII. **Multi Objective Optimization Underfloor Heating System Based on Particle Swarm Algorithm**  
JAVANI N., Hajabdollahi H., YUMURTACI Z.  
International Conference on Energy Systems, İstanbul, Turkey, 23 December 2015, pp.150-155
- IX. **MULTI OBJECTIVE OPTIMIZATION OF UNDERFLOOR HEATING SYSTEM BASED ON PARTICLE SWARM ALGORITHM**  
JAVANI N., hajabdollahi H., YUMURTACI Z.  
INTERNATIONAL CONFERENCE ON ENERGY SYSTEMS, 23 - 25 December 2015
- X. **Natural Frequencies Analyses of a NACA-4415 Wind Turbine Blade Using Energy Methods**  
Çelik A., Javani N.  
International conference on energy systems İstanbul 2015 - ICES2015 , İstanbul, Turkey, 23 - 25 December 2015, pp.88-96

## Supported Projects

Dincer İ., Javani N., Sorgulu F., Öztürk M., Energy and Natural Resources Ministry, Yenilenebilir Gaz Üretimi, 2020 - 2022  
Yumurtacı Z., Çetin B., Akkaya A. V., Pusat Ş., Javani N., Technopark, DEMİR-ÇELİK ENDÜSTRİSİ ATIĞI ÇÜRUFUN ISIL GERİ KAZANIM POTANSİYELİNİN BELİRLENEREK ELEKTRİK ÜRETİMİNDE KULLANILMASININ ANALİZİ, 2019 - 2019

## **Metrics**

Publication: 58

Citation (WoS): 460

Citation (Scopus): 489

H-Index (WoS): 10

H-Index (Scopus): 11