سخنرانی علمی شماره ٦

اهمیت و سیر تکامل سیستم های تولید چندگانه در عصر پیش رو

محمدحسین احمدی

دانشیار دانشکده مهندسی مکانیک و مکاترونیک، دانشگاه صنعتی شاهرود

چکیده:

با توجه به افزایش جمعیت جهان و رشد روز افزون مصرف انرژی و آب و همچنین کاهش منابع سوختهای فسیلی و منابع آبی در جهان، پژوهشگران به بررسی امکانپذیر بودن سیستمهای تولید چندگانه و چگونگی عملکرد آنها روی آوردند. این سیستمها در اصل مجموعه ای یکپارچه می باشند که اهداف نظیر تولید توان، گرمایش، سرمایش، تولید هیدروژن، تولید آب و غیره دارا است. در این سخنرانی اهمیت این موضوع و سیر تکامل آن تا به امروز را مورد بحث می دهیم.

چهارشنبه ۸ تیرماه ۱۴۰۱

ساعت ۱۰ صبح

http://194.225.24.96/defa-mechanic-2/

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EDUCATION:

University of Tehran, Tehran
Ph.D of Energy System Engineering

K.N.Toosi University of Technology, Tehran
MSc in Energy System Engineering

Chabahar Maritime and Marine University
Bachelor of Science (BS)
Naval architecture

ACTIVITIES:

Sustainable Energy, Renewable Energy, CO_2 Capture, Energy efficiency, Nano/Micro scale Thermodynamics, Pinch Technology, Process Integration Modelling and Optimization, Desalination, Energy Audit, Optimization, Artificial Intelligence.

TEACHING ACTIVITIES:

Undergraduate teaching:

1. Thermodynamics
2. Heat Transfer I,II
3. Engineering mathematics
4. Numerical calculations
5. Programming

Postgraduate teaching

1. Pinch Technology
2. Exergy Analysis
3. Solar Power plans

AWARD AND HONORS:

1. Top **1%** of World's Scientists (2017-2020)
2. First Rank of Ph.D program in Energy System Engineering
3. Forth Rank student at MS.c program of Energy System Engineering

4. Engineering Faculty of University of Tehran Distinguished researcher award, 2015-2016.
5. Outstanding oral presentation, ISME2013 Held in Tehran

Editorial Board:

1. Member of Editorial Board (**IET Renewable Power Generation, IF= 3.605 (ISI)**)

2. Member of Editorial Board (**Journal of Power and Energy, Part A of the Proceedings of the Institution of Mechanical Engineers , IF=1.694 (ISI)**)

3. Member of Editorial Board (**World Journal of Engineering (ISI)**)
4. Member of Editorial Board (**International Journal of Renewable Energy Development (ISI)**)
5. Member of Editorial Board (**International Journal of Energy Economics and Policy (Scopus)**)
6. Member of Editorial Board (**International Journal of Energy Technology and Policy (Scopus)**)
7. Member of Editorial Board (**Mathematical Modelling of Engineering Problems (Scopus)**)
8. Member of Editorial Board (**Technological Audit and Production Reserves**)
9. Member of Editorial Board (**Current Alternative Energy**)
10. Member of Editorial Board (**International Journal of Hydromechatronics**)
11. Guest Editor of Journal of Thermal Analysis and Calorimetry (SI: **Exergetic Dimensions of Energy Systems and Processes**) **Q2**
12. Guest Editor of Applied Sciences (SI: **Application of Machine Learning, Artificial Intelligence, Deep Learning and Big Data Analysis in Nanofluids and Nanoparticles Design**) **Q2**
13. Guest Editor of Sustainability (SI: **Applications of Artificial Intelligence Model of Heat and Mass Transfer**) **Q2**
14. Guest Editor of Mathematical Problems in Engineering (SI: **Modelling, Optimisation, and Control of Medium and Low-temperature Thermal Energy Systems Based on the Organic Rankine Cycle**) **Q3**
15. Member of SSME2015 Technical Program Committee
16. Member of Nano-Micro Conference 2017 Technical Program Committee

Scopus ID: 55016898100, **h-index: 49**

Active reviewer

- Journal of Thermal Analysis and Calorimetry
- Applied Thermal Engineering Journal.
- Energy Journal.
- Energy Conversion and Management.
- International Journal of Energy Research (IJER).
- Neural Computing and Applications Journal
- Renewable Energy
- Journal of Renewable and Sustainable Energy
- Ambient Energy
- International Journal of Hydrogen Energy
- Applied Energy - Journal
- Renewable & Sustainable Energy Reviews
- Environmental Progress & Sustainable Energy
- Biomass & Bioenergy
- Applied Soft Computing - Journal

PUBLICATION:

Book Chapter

Ahmadi M.H., Dehghani S., Mohammadi A.H., Feidt M.,Multi-objective optimization of a Stirling engine with irreversibility consideration using Finite speed thermodynamics. Advances in Energy Research (Volume 18), 01/2014; Nova Science Publishers, Inc., NY, USA.

Selected ISI International Journals

- Beigzadeh, Milad, Fathollah Pourfayaz, Mahyar Ghazvini, and **Mohammad H. Ahmadi**. "Energy and exergy analyses of solid oxide fuel cell-gas turbine hybrid systems fed by different renewable biofuels: A comparative study." *Journal of Cleaner Production* 280 (2021): 124383.

- Jagtap, Hanumant P., Anand K. Bewoor, Ravinder Kumar, **Mohammad Hossein Ahmadi**, Mamdouh El Haj Assad, and Mohsen Sharifpur. "RAM analysis and availability optimization of thermal power plant water circulation system using PSO." *Energy Reports* (2020).
- Jagtap, Hanumant P., Anand K. Bewoor, Ravinder Kumar, **Mohammad Hossein Ahmadi**, and Lingen Chen. "Performance analysis and availability optimization to improve maintenance schedule for the turbo-generator subsystem of a thermal power plant using particle swarm optimization." *Reliability Engineering & System Safety* 204 (2020): 107130.
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- Sharma, Jeet Prakash, Aashish Sharma, Ravindra D. Jilte, Ravinder Kumar, and **Mohammad Hossein Ahmadi**. "A study on thermohydraulic characteristics of fluid flow through microchannels." *Journal of Thermal Analysis and Calorimetry* 140, no. 1 (2020): 1-32.
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- **Ahmadi, Mohammad Hossein**, Behnam Mohseni-Gharyehsafa, Mahyar Ghazvini, Marjan Goodarzi, Ravindra D. Jilte, and Ravinder Kumar. "Comparing various machine learning approaches in modeling the dynamic viscosity of CuO/water nanofluid." *Journal of Thermal Analysis and Calorimetry* 139, no. 4 (2020): 2585-2599.
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ethanol by using neural networks." *International Journal of Heat and Mass Transfer* 126 (2018): 1079-1086.

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- **Mohammad Hossein Ahmadi**, Mohammad Ali Ahmadi, Milad Ashuri, Optimization Performance of Irreversible Refrigerators Based on Evolutionary Algorithm, Presented at *1st International Electronic Conference on Entropy and Its Applications (3 - 21 November 2014)*

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RESEARCH INTEREST:

- Sustainable Energy,
- Renewable Energy
- Thermal engineering
- Carbon capture
- Biofuel
- Environmental Engineering
- Application of nano technology in Energy engineering
- Application of Artificial Intelligence in Energy engineering

LANGUEGE PROFISIENCY:

- **English:** Fluent in writing, speaking and verbal skills
- **Persian:** Native Language

- **Arabian:** Fluent in Reading and Writing

COMPUTER SKILLS:

- Soft wares: **HYSYS, Thermoflow ,EES**, **Energyplan**
- General soft wares : **Office Software Package, MATALB**

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