

احسان غلامیان کارکن

دکتری مهندسی مکانیک



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سوابق تحصیلی

پسا دکتری مکانیک

دانشکده مهندسی مکانیک دانشگاه تبریز-گرایش تبدیل انرژی

۰۰-۹۹



دانشگاه تبریز

۹۹-۹۵

دکتری مهندسی مکانیک

دانشکده مهندسی مکانیک دانشگاه تهران-گرایش تبدیل انرژی-معدل ۱۷/۲۵

پذیرفته شده به صورت استعداد درخشان-بدون کنکور

عنوان پایان نامه:

طراحی و بهینه سازی شهرک انرژی و آلاینده‌گی نزدیک به صفر در ایران



۹۹-۹۸

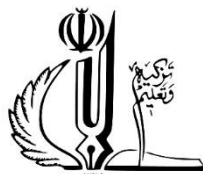


فرصت تحقیقاتی خارجی

فرصت تحقیقاتی در دانشکده انرژی دانشگاه پلی تکنیک میلان

انجام آزمایش در آزمایشگاه تحقیقاتی ساختمان زیر نظر مدیر بخش "انرژی در ساختمان" لیویو ماتزارلا

۹۴-۹۲



دانشگاه سبز
۹۲-۸۸



دانشگاه صنعتی ارومیه
وزارت علوم، تحقیقات و فناوری

کارشناسی ارشد مکانیک

دانشکده مهندسی مکانیک دانشگاه تبریز-گرایش تبدیل انرژی-معدل ۱۸/۰۵

عنوان پایان نامه

تحلیل انرژی و انرژی نیروگاه تولید سه گانه با سوخت زیست توده

کارشناسی مهندسی مکانیک

مهندسی مکانیک-در حرارت و سیالات، دانشگاه صنعتی ارومیه، ۱۳۸۸-۱۳۹۲، با معدل ۱۷/۸۳، رتبه دوم از

بین ۵۶ نفر و فارغ التحصیلی در ۷ نیمسال.

عنوان پروژه:

تحلیل عددی جریان آرام و انتقال حرارت در میکرو کانال ها، با نمره ۱۹ و درجه عالی

افتخارات

برنده جایزه شهید دکتر شهریاری بنیاد ملی نخبگان جهت جذب در موسسات علمی در سال ۱۴۰۰

جز ۲٪ برتر پژوهشگران دنیا در سال ۲۰۲۳

جز ۲٪ برتر پژوهشگران دنیا در سال ۲۰۲۲

جز ۲٪ برتر پژوهشگران دنیا در سال ۲۰۲۱

برنده جوایز تحصیلی بنیاد ملی نخبگان در سال ۱۳۹۸-۱۳۹۷

برنده جوایز تحصیلی بنیاد ملی نخبگان در سال ۱۳۹۶-۱۳۹۵

عضو استعداد های درخشان دانشگاه تبریز: ۱۳۹۲-۱۳۹۴

عضو استعداد های درخشان دانشگاه صنعتی ارومیه: ۱۳۸۸-۱۳۹۲

مهارت های زبانی

انگلیسی:

Reading-Listening-Speaking-Writing → Advanced

Graduate student of Iran Language Institute.

Toefl certificate → **101/120**

آذری: زبان مادری

ترکی استانبولی: مکالمه (خوب)---نوشتاری (متوسط)

مهارت های کامپیوتری

- تسلط کامل بر مجموعه نرم افزار های آفیس (MS Office)
 - تسلط کامل بر نرم افزار Auto CAD
 - تسلط کامل بر نرم افزار Carrier
 - تسلط کامل بر نرم افزار Google Sketch up
 - تسلط کامل بر نرم افزار TRANSYS
 - تسلط کامل بر نرم افزار Energy Plus
 - تسلط کامل بر نرم افزار Pipe Net
 - تسلط کامل بر نرم افزار EES
 - تسلط بر نرم افزار Solid Works
 - تسلط بر نرم افزار Fluent and Gambit
 - آشنایی با نرم افزار Aspen Plus
 - آشنایی با نرم افزار MATLAB
 - آشنایی با نرم افزار PDMS & Cesar
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سوابق کاری

دارای پروانه نظام مهندسی طراحی و نظارت تاسیسات مکانیکی ساختمان

مشاوره طراحی سیستم های تاسیساتی و نیروگاهی – شرکت عامران افق (مهندس طرح و مشاور)

- پروژه نیروگاهی هریس

- پروژه نیروگاهی رود شور

کارشناس ارشد فنی (مهندسی مکانیک) در شرکت مهندسی پترونیک صنعت

- طراحی تاسیسات مکانیکی در سایت های مختلف آزمایشگاهی کشور

- طراحی سیستم گاز رسانی گازهای خالص آزمایشگاهی

- بازدید از سایت های نفت و گاز جنوب کشور و ارائه راه حل های بهبود تاسیسات مکانیکی و تهیه مطبوع

انتشارات

دارای ۳۸ مقاله در مجلات داخلی و بین المللی و ۶ کنفرانس داخلی و خارجی که لیست آنها به پیوست میباشد.

کتاب ها

۱- کاربرد انرژی های تجدید پذیر در ساختمان-مبانی و بهینه سازی

۲- استحصال انرژی از زیست توده

Peer reviewed Publications

- **Ehsan Gholamian**, Vahid Zare, Nader javani, Faramarz Ranjbar. Dynamic 4E (energy, exergy, economic and environmental) analysis and tri-criteria optimization of a building-integrated plant with latent heat thermal energy storage. Energy Conversion and Management. 1, 115868, 2022
- **Ehsan Gholamian**, R Bagheri Barmas, V. Zare, S.F. Ranjbar. The effect of Incorporating phase change materials in building envelope on reducing the cost and size of the integrated hybrid-solar energy system: An application of 3E dynamic simulation with reliability consideration. Sustainable energy technologies and assessment. 52, 102067, 2022.

- **Ehsan Gholamian**, A. S mehr, Mortaza yari, JG Carton. Dynamic simulation and techno-economic assessment of hydrogen utilization in dual fuel (Hydrogen/biogas) micro gas turbine systems for a wastewater treatment plant. *Process Safety and Environmental Protection*. 169, 220-237, 2023
- **Ehsan Gholamian**, Seyed Mohammad Seyed Mahmoudi, Saeed Balafkandeh. Techno-economic appraisal and machine learning-based gray wolf optimization of enhanced fuel cell integrated with Stirling engine and vanadium-chlorine cycle. *International Journal of Hydrogen Energy*. 2023
- Seyed Mohammad Seyed Mahmoudi, **Ehsan Gholamian**, Nima Ghasemzadeh. Recurrent machine learning based optimization of an enhanced fuel cell in an efficient energy system: Proposal, and techno-environmental analysis. *Process Safety and Environmental Protection* 173, 414-425, 2023
- Amirmohammad Behzadi, **Ehsan Gholamian**, Seyed Mojtaba Alirahmi, Behrouz Nourozi, Sasan Sadrizadeh. A comparative evaluation of alternative optimization strategies for a novel heliostat-driven hydrogen production/injection system coupled with a vanadium chlorine cycle. *Energy Conversion and Management*. 267, 115878, 2022.
- Saeed Balafkandeh, Seyed Mohammad Seyed Mahmoudi, **Ehsan Gholamian**. Design and tri-criteria optimization of an MCFC based energy system with hydrogen production and injection: An effort to minimize the carbon emission. *Process Safety and Environmental Protection*. 166,299-309, 2022
- A Javaherian, M Yari, **Ehsan Gholamian**, JG Carton, AS Mehr. Proposal and comprehensive analysis of power and green hydrogen production using a novel integration of flame-assisted fuel cell system and Vanadium-Chlorine cycle: An application of multi-objective optimization. *Energy Conversion and Management*. 277, 116659, 2023.
- **Ehsan Gholamian**, Ahmadi P, Hanafizadeh P, Ashjaee M. Dynamic feasibility assessment and 3E analysis of a smart building energy system integrated with hybrid photovoltaic-thermal panels and energy storage. *Sustainable Energy Technologies and Assessment*. 225, 113695, 2020.
- **Ehsan Gholamian**, Pedram Hanafizadeh, Pouria Ahmadi, Livio Mazzarella. A transient optimization and techno-economic assessment of a building integrated combined cooling, heating and power system in Tehran. *Energy Conversion and Management*. 217, 112962, 2020.

- **Ehsan Gholamian**, Reza bagheri barmas, Vahid Zare, Faramarz Ranjbar. The effect of Incorporating phase change materials in building envelope on reducing the cost and size of the integrated hybrid-solar energy system: An application of 3E dynamic simulation with reliability consideration. *Sustainable Energy Technologies and Assessments*. 52, 102067, 2022
- **Ehsan Gholamian**, Hanafizadeh P, Ahmadi P, Mazzarella L. 4E analysis and three-objective optimization for selection of the best prime mover in smart energy systems for residential applications: a comparison of four different scenarios. *Journal of Thermal Analysis and Calorimetry*. 1-21, 2020.
- **Ehsan Gholamian**, Pedram Hanafizadeh, Pouria Ahmadi. Advanced exergy analysis of a carbon dioxide ammonia cascade refrigeration system. *Applied Thermal Engineering*. 137, 689-699, 2018.
- **E. Gholamian** and V. Zare. “A comparative thermodynamic investigation with environmental analysis of SOFC waste heat to power conversion employing Kalina and organic Rankine cycles.” *Energy Conversion and Management*. 117, 150-161, 2016.
- **E. Gholamian**, S. M. S. Mahmoudi and V. Zare. “Proposal, exergy analysis and optimization of a new biomass-based cogeneration system.” *Applied Thermal Engineering*. 93, 223-235, 2016.
- **E. Gholamian**, V. Zare, and M.Mousavi. “Integration of biomass gasification with a solid oxide fuel cell in a combined cooling, heating and power system: a thermodynamic and environmental analysis.” *International journal of hydrogen energy*. 41, 20396-20406, 2016.
- **Ehsan Gholamian**, Pedram Hanafizadeh, Ali Habibollahzade, Pouria Ahmadi. Evolutionary based multi-criteria optimization of an integrated energy system with SOFC, gas turbine, and hydrogen production via electrolysis. *International journal of hydrogen energy*. 43, 16201-16214, 2018.
- **Ehsan Gholamian**, Ali Habibollahzade, Vahid Zare. Development and multi-objective optimization of geothermal-based organic Rankine cycle integrated with thermoelectric generator and proton exchange membrane electrolyzer for power and hydrogen production. *Energy conversion and Management*. 174, 112-125, 2018.
- **Ehsan Gholamian**, Pedram Hanafizadeh, Pouria Ahmadi. Exergo-economic analysis of a hybrid anode and cathode recycling SOFC/Stirling engine for aviation applications. *Int. J. Sustainable aviation*. 4, 11-30, 2018.

- Amirmohammad Behzadi, Ahmad Arabkoohsar, **Ehsan Gholamian**. Multi-criteria optimization of a biomass-fired proton exchange membrane fuel cell integrated with organic rankine cycle/thermoelectric generator using different gasification agents. *Energy*. 201, 117640, 2020.
- Fakhari I, Behzadi A, **Ehsan Gholamian**, Ahmadi P, Arabkoohsar A. Comparative double and integer optimization of low-grade heat recovery from PEM fuel cells employing an organic Rankine cycle with zeotropic mixtures. *Energy conversion and Management*. 228, 113695. 2021.
- Fakhari I, Behzadi A, **Ehsan Gholamian**, Ahmadi P, Arabkoohsar A. Design and tri-objective optimization of a hybrid efficient energy system for tri-generation, based on PEM fuel cell and MED using syngas as a fuel. *J of Cleaner Production*. 290, 125205, 2020.
- A. Habibollahzade, **Ehsan Gholamian**, Amirmohamad behzadi. “Multi-objective optimization and comparative performance analysis of hybrid biomass-based solid oxide fuel cell/solid oxide electrolyzer cell/gas turbine using different gasification agents” *Applied Energy*. 137, 985-1002, 2019.
- S. Balafkandeh, V. Zare, **E. Gholamian**. “Multi-objective optimization of a tri-generation system based on biomass gasification/digestion combined with S-CO₂ cycle and absorption chiller” *Energy Conversion and Management*. *Energy conversion and Management*. 200, 112057. 2019.
- Ali Habibollahzade, Ehsan Houshfar, Mehdi Ashjaee, Amirmohammad Behzadi, **Ehsan Gholamian**, Hamid Mehdizadeh. Enhanced power generation through integrated renewable energy plants: Solar chimney and waste-to-energy. *Energy Conversion and Management*. 166,48-63, 2018.
- Ali Habibollahzade, **Ehsan Gholamian**, Ehsan Houshfar, Amirmohammad Behzadi. Multi-objective optimization of biomass-based solid oxide fuel cell integrated with Stirling engine and electrolyzer. *Energy Conversion and Management*. 171, 1116-1133, 2018.
- Amirmohammad Behzadi, Ehsan Houshfar, **Ehsan Gholamian**, Mehdi Ashjaee, Ali Habibollahzade. Multi-criteria optimization and comparative performance analysis of a power plant fed by municipal solid waste using a gasifier or digester. *Energy Conversion and Management*. 171, 863-878, 2018.
- Ali Habibollahzade, **Ehsan Gholamian**, Pouria Ahmadi, Amirmohammad Behzadi. Multi-criteria optimization of an integrated energy system with thermoelectric generator, parabolic trough solar collector

and electrolysis for hydrogen production. *International journal of hydrogen energy*. 43, 14140-14157, 2018.

- Amirmohammad Behzadi, **Ehsan Gholamian**, Ehsan Houshfar, Ali Habibollahzade. Multi-objective optimization and exergoeconomic analysis of waste heat recovery from Tehran's waste-to-energy plant integrated with an ORC unit. *Energy*. 160, 1055-1068, 2018.
- Amirmohammad Behzadi, **Ehsan Gholamian**, Pouria Ahmad, Ali Habibollahzade, Mehdi Ashjaee. Energy, exergy and exergoeconomic (3E) analyses and multi-objective optimization of a solar and geothermal based integrated energy system. *Applied Thermal Engineering*. 143, 1011-1022, 2018.
- Ali Habibollahzade, Ehsan Houshfar, Pouria Ahmadi, Amirmohammad Behzadi, **Ehsan Gholamian**. Exergoeconomic assessment and multi-objective optimization of a solar chimney integrated with waste-to-energy. *Solar Energy*. 176, 30-41, 2018.
- Ali Habibollahzadeh, **Ehsan Gholamian**, Pouria Ahmadi. Enhanced performance and reduced payback period of a low grade geothermal-based ORC through employing two TEGs. *Journal of Energy Equipment and Systems*. 7, 23-39, 2019.
- Ehsan Gholamian, Pedram Hanafizadeh, Pouria Ahmadi, Livio Mazzarella. The use of waste heat recovery (WHR) options to produce electricity, heating, cooling, and freshwater for residential buildings. *Journal of Energy Equipment and Systems*. 8, 277-296, 2021.
- Amirmohammad Behzadi, **Ehsan Gholamian**, Ehsan Houshfar, Mehdi Ashjaee, Ali Habibollahzade. Thermoeconomic analysis of a hybrid PVT solar system integrated with double effect absorption chiller for cooling/hydrogen production. *Journal of Energy Equipment and Systems*. 6, 413-427, 2020.
- **Ehsan Gholamian**, Vahid Zare, Mostafa Mousavi. Numerical analysis of various nanoparticles size effects on thermal performance of nanofluid in a microchannel heat sink. *Journal of Solids and Fluid Mechanics*. 6, 275-284, 2016.
- **Ehsan Gholamian**, S.M.S. Mahmoudi, Vahid Zare. Optimization of a Combined Cycle for Power Generation Integrated with Biomass Gasification. *Tabriz Mechanical Engineering Journal*. 47, 161-169, 2017.

- Ali Habibollahzadeh, **Ehsan Gholamian**, Pouria Ahmadi. Energy and exergy assessment of solar chimney power plants: An analytical modeling. *Journal of Solar Energy Research*. 3, 75-79, 2018.
- AS Mehr, M Ilkhani, S Sabernia, Sh Nooshmand, **Ehsan Gholamian**, E Assareh. Thermodynamics assessment and dynamic simulation of a low-carbon syngas-fueled SOFC system using a green hydrogen blend. *International Journal of Hydrogen Energy*. 2023

Conference Papers:

- 1) **E. Gholamian**, V. Zare, S. M. S. Mahmoudi, “Thermodynamic analysis of a new power generation system based on biomass Gasifier”. Presented in 23rd international conference in mechanical engineering- ISME2015, Tehran, Iran.
- 2) S. M. S. Mahmoudi, **E. Gholamian**, V. Zare, “Exergy analysis of a new configuration of trigeneration system based on biomass gasifier.” presented in 3rd European Conference on renewable energy Systems-Antalya-Turkey.
- 3) **Ehsan Gholamian**, Pedram Hanafizadeh, Pouria Ahmadi, Nader Javani. Analysis and Optimization Proposal of a Typical Building in Tehran using TRNSYS Software. 7th Global Conference on Global Warming. Izmir-Turkey.
- 4) **Ehsan Gholamian**, Pedram Hanafizadeh Pouria Ahmadi. Exergetic, Exergoeconomic, and Environmental (3E) Analysis of a Trigeneration System Driven by a Biomass Gasifier and S-CO₂. 7th Global Conference on Global Warming. Izmir-Turkey.
- 5) Ali Habibollahzade, Ehsan Houshfar, Amir Mohammad Behzadi, **Ehsan Gholamian**, Mehdi Ashjaee. Resolving the Non-Productive Periods of Solar Chimney by Integrating with Waste-to-Energy Plant. 7th Global Conference on Global Warming. Izmir-Turkey.
- 6) Amir Mohammad Behzadi, Ehsan Houshfar, Ali Habibollahzade, **Ehsan Gholamian**, Mehdi Ashjaee. Exergy and Exergoeconomic Assessment of Tehran’s Waste to Energy Power Plant. 7th Global Conference on Global Warming. Izmir-Turkey.

Books:

- 1) **Ehsan Gholamian**, Saeid Balafkandeh, *“The usage of renewable energies in building applications: Fundamentals and application” (In persian)*
- 2) **Ehsan Gholamian**, *“Extracting energy from biomass for the use in energy systems” (In persian)*