

**Yağmur Nalbant Atak, Ph.D.**

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PERSONAL

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| **Date of Birth** | 28/06/1994 |
| **Place of Birth** | Muğla / Turkey |

EDUCATION

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| 2018-2022 | PhD., Department of Thermodynamics, Mechanical Engineering, Dokuz Eylül University, Izmir, Turkey |
| 2016-2018 | M.Sc., Department of Thermodynamics, Mechanical Engineering, Dokuz Eylül University, Izmir, Turkey |
| 2012-2016 | B.Sc., Mechanical Engineering, Faculty of Engineering, Dokuz Eylül University, Izmir, Turkey |

ACADEMIC POSITIONS

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| 01/2023 | Asst. Prof. Dr., Department of Mechanical Engineering, Atilim University, Turkey |

HONORS&AWARDS

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| **1** | Graduation with High Honors Ph.D. from Graduate School of Natural and Applied Sciences, Dokuz Eylül University, 2022 |
| **2** | Second Prize in the Third Traditional Interdisciplinary Project Competition Organized by The Faculty of Engineering of Dokuz Eylül University, 2016 |
| **3** | Graduation with Honors, B.Sc. from Dokuz Eylül University, 2016 |
| **4** | Third Degree Award, B.Sc. from Mechanical Engineering Department in Dokuz Eylül University , 2016 |

RESEARCH INTERESTS

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| **1** | Hydrogen Production Technologies |
| **2** | Membrane Reactors |
| **3** | Fuel cells (Proton Exchange Membrane Fuel Cells and Solid Oxide Fuel Cells) |
| **4** | Thermodynamic Analysis (Energy and Exergy) |
| **5** | Mathematical Modeling of Thermal Systems (0-D, 1-D and 2-D) |
| **6** | Power-to-X Systems |
| **7** | Water Electrolyzer Technology |

PROFESSIONAL SERVICE

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| **1** | 23rd World Hydrogen Energy Conference 2022 (WHEC-2022) Conference Organizing Committee Member as Graduate Student Volunteers |

PUBLICATIONS

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| **1** | Atak, Y. N., Colpan, C. O., & Iulianelli, A. (2022). Energy and exergy analyses of an integrated membrane reactor and CO2 capture system to generate decarbonized hydrogen. Energy Conversion and Management, 272, 116367.  **DOI:** https://doi.org/10.1016/j.enconman.2022.116367 |
| **2** | Nalbant Atak, Y., Colpan, C. O., & Iulianelli, A. (2021). A review on mathematical modeling of packed bed membrane reactors for hydrogen production from methane. International Journal of Energy Research, 45(15), 20601-20633.  **DOI:** https://doi.org/10.1002/er.7186 |
| **3** | Nalbant, Y., Colpan, C. O., & Devrim, Y. (2020). Energy and exergy performance assessments of a high temperature-proton exchange membrane fuel cell based integrated cogeneration system. International Journal of Hydrogen Energy, 45(5), 3584-3594.  **DOI:** https://doi.org/10.1016/j.ijhydene.2019.01.252 |
| **4** | Nalbant, Y., Colpan, C. O., & Devrim, Y. (2018). Development of a one-dimensional and semi-empirical model for a high-temperature proton exchange membrane fuel cell. international journal of hydrogen energy, 43(11), 5939-5950.  **DOI:** https://doi.org/10.1016/j.ijhydene.2017.10.148 |

BOOK CHAPTERS

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| **1** | Atak, Y. N., Colpan, C. O., & Iulianelli, A. (2022). Hydrogen and renewable energy: the role of membrane reactor technology. In Membrane Engineering in the Circular Economy (pp. 149-174). Elsevier. |
| **2** | Nalbant, Y., & Colpan, C. O. (2020). An Overview of Hydrogen Production from Biogas. Accelerating the Transition to a 100% Renewable Energy Era, 355-373. |
| **3** | Colpan, C. O., Nalbant, Y., & Ercelik, M. (2018). 4.28 Fundamentals of Fuel Cell Technologies Dincer, I. (2018). Comprehensive Energy Systems. |

PROJECTS

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| **1** | **TUBA-GEBIP Project (2019–2022) conducted by Principal investigator Prof.Dr. Can Özgür ÇOLPAN**  **Project Subject:** “Two-Dimensional Mathematical Modeling of Membrane Reactor Producing Hydrogen from Biogas”  (Researcher as PhD Student) |
| **2** | **SCIENTIFIC RESEARCH PROJECT (2019-2022)– Dokuz Eylül University**  **Grant Number:** 2019.KB.FEN.022  **Project Subject:** “Experimental and Mathematical Modeling of Hydrogen Production from Biogas Through Membrane Reactors”  (Researcher as PhD Student) |
| **3** | **TUBITAK 1001 Supporting Scientific and Technological Research Projects Program conducted by Principal investigator Prof.Dr. Yılser Devrim**  **Grant number:** 214M301  **Project Subject: “**Design and Development of the High-Temperature Fuel Cell Fueled by Reformate Gases for Evaluation of Micro-Cogeneration Application**”**  (Researcher as MSc Student, 2016-2018) |
| **4** | **TUBITAK 2209-A - University Students Research Project – (2015-2016)**  **Grant number:** 1919B011501716  **Project Subject:** “Experimental Investigation of the Effects of Different Catalyst Coating Methods on Performance in Direct Methanol Fuel Cells”  (Researcher as Undergraduate Student) |

CONFERENCE PRESENTATIONS

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| **1** | Nalbant Atak, Y., Colpan, C. O., and Iulianelli, A. (2022). Energy Analysis of a Membrane Reactor-Based Hydrogen Production System.  Conference: 23rd World Hydrogen Energy Conference (WHEC-2022)  (Oral Presentation) |
| **2** | Nalbant Atak, Y., Colpan, C. O., and Iulianelli, A. (2021). Comparison study of a one-dimensional membrane reactor using a self-supported membrane.  Conference: 12th International Conference on Hydrogen Production (ICH2P-2021)-Online Conference |
| **3** | Nalbant Atak, Y., Colpan, C. O., and Iulianelli, A. (2021). One-Dimensional Model of a Membrane Reactor Providing Hydrogen Production from Reformate Gas  Conference: 1st Renewable Hydrogen Energy Conference (RH2EC-2021)-Online Conference |
| **4** | Nalbant, Y., & Colpan, C. O. (2019). Comparison of the 0-D and 3-D models of a steam-methane reformer.  Conference: 4th International Hydrogen Technologies Congress (IHTEC-2019), Edirne, Turkey.  (Oral Presentation) |
| **5** | Nalbant, Y., & Colpan, C. O. (2019). 3-D model of a steam-methane reformer for proton exchange membrane fuel cell applications  Conference: 10th International Conference on Hydrogen Production (ICH2P-2019) - Cluj-Napoca, România (Oral Presentation) |
| **6** | Nalbant, Y., Colpan, C. O., & Devrim, Y. (2018). Development of a mathematical model for an HT-PEMFC stack-based cogeneration system  Conference: 3rd International Hydrogen Technologies Congress (IHTEC-2018); 15-18 March, Alanya, Turkey.  (Oral Presentation) |
| **7** | Nalbant, Y., Colpan, C. O., & Devrim, Y. (2018). Thermodynamic modeling of natural gas fueled HT-PEMFC based cogeneration system  Conference: 7th Global Conference on Global Warming; June 24-28, 2018, İzmir, Turkey.  (Oral Presentation) |
| **8** | Nalbant, Y., Colpan, C. O., & Devrim, Y. (2018). Mathematical modeling of cogeneration system based on proton exchange membrane fuel cell operating at high temperature  Conference: 4th Anatolian Energy Symposium with International Participation; 18-20 Nisan 2018, Edirne, Türkiye  (Oral Presentation) |
| **9** | Nalbant, Y., Colpan, C. O., Devrim, Y. (2017). Development of a semi-empirical model for a high-temperature proton exchange membrane fuel cell.  Conference: 9th International Exergy, Energy and Environment Symposium (IEEES-9); 14-17 May 2017, Split, Croatia  (Oral Presentation) |
| **10** | Ozden, A., Ercelik, M., Nalbant, Y., Kiyik, H., & Colpan, C. O. (2016). The Effects of Three Different Coating Techniques on the Performance of DMFCs  Conference: 8th International Exergy, Energy and Environment Symposium; 1-4 May 2016, Antalya, Türkiye |

CITATIONS

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| Sum of times cited without self-citations (ISI Web of Science): | 53 |
| H-index (ISI Web of Science): | 2 |

COURSES GIVEN

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| **1** | ME108 – Computer Aided Solid Modelling |
| **2** | ME408- Thermal System Design |