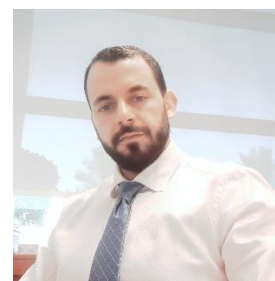


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Education

Ph.D., Engineering Sciences, University of Paris 13, Paris, France	2008
M.S., Physics, University of Badji Mokhtar, Annaba, Algeria	2004
B.S., Physics, University of 8 May 1945, Guelma, Algeria	2001

Professional Experience

Vice Dean for Academic and Student Affairs, COSGS, Alfaisal University, Riyadh, KSA	2017-Present
Department Chair, Department of Physics, COSGS, Alfaisal University, Riyadh, KSA	2015-Present
Assistant Professor of Physics, Alfaisal University, Riyadh, KSA	2015-Present
Research Associate, INRS, Varennes, Quebec, Canada	2014-2015
Postdoctoral Fellow, INRS, Varennes, Quebec, Canada	2011-2014
Research Fellow, INRS, Varennes, Quebec, Canada	2010-2011
Research Fellow, LIMHP, University of Paris 13, Paris, France	2005-2008

Awards and Fellowships

- | | |
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| • Outstanding Teaching Award, Alfaisal University, Riyadh, KSA | 2024 |
| • Outstanding Service Award, Alfaisal University, Riyadh, KSA | 2023 |
| • Outstanding Teaching Award, Alfaisal University, Riyadh, KSA | 2019 |
| • Pyrogenesis-Plasma-Quebec Prize, Plasma Quebec Symposium, Canada | 2014 |
| • "FQRNT" Postdoctoral fellowship, Quebec, Canada | 2011-2014 |
| • "Agence Universitaire de la Francophonie" Doctoral scholarship, France | 2005-2008 |

Grants

- | | |
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| • PI: President's Innovation Funding, Alfaisal University (120,000 SAR), KSA | 2023 |
| • PI: Internal Research Grant, Alfaisal University (50,000 SAR), Riyadh, KSA | 2023 |
| • PI: Internal Research Grant, Alfaisal University (50,000 SAR), Riyadh, KSA | 2021 |
| • PI: Internal Research Grant, Alfaisal University (35,000 SAR), Riyadh, KSA | 2016 |

Research Interests

In the interface of Applied Physics and Technology with focus on the synthesis and applications of nanomaterials for energy-related applications. Development of Energy-efficient, eco-friendly and scalable processes for nanomaterials synthesis, optimization of smart materials and devices for both terrestrial and space applications, design and fabrication of multilayer thin-films' optical filters.

Patents

- **Hendaoui, M. Chaker, E. Haddad**, "Passively variable emittance device and method for making the same", 2021, CA2833862C (granted in **March 2021**)
- **Hendaoui, M. Chaker, E. Haddad**, "Passively variable emittance device and method for making the same", 2014, US8908253B2 (granted in **December 2014**)

Publications (listed chronologically)

- J28. **A. Hendaoui**, A. Alshammari. Preparation of Nitrogen-doped Holey Multilayer Graphene Using High-Energy Ball Milling of Graphite in Presence of Melamine. *Materials*, 16 (2023) 219.
- J27. **A. Hendaoui**. Low Solar Absorptance, High Emittance Performance Thermochromic VO₂-Based Smart Radiator Device. *Nanomaterials*, 12 (2022) 4422.
- J26. **A. Hendaoui**, Substrate Temperature-Dependent Structural, Optical, and Electrical Properties of Thermochromic VO₂(M) Nanostructured Films Grown by a One-Step Pulsed Laser Deposition Process on Smooth Quartz Substrates, *Advances in Condensed Matter Physics*, (2021) Article ID 7700676
- J25. H. Ouacha, **A. Hendaoui**, U. Kleineberg, H. Albrithen and A. Azzeer. Controlled synthesis and photoluminescence properties of In₂O₃ rods with dodecahedron In₂O₃ microcrystals on top, *Physica Status Solidi (a)*, 214 (2017) 1700050
- J24. Nicolas Émond, **Ali Hendaoui**, Sébastien Delprat, Mohamed Chaker, Ke Wu. Theoretical and Experimental Investigation of Thermo-Tunable Metal–Insulator–Vanadium Dioxide Coplanar Waveguide Structure, *IEEE Transactions on Microwave Theory and Techniques*, 65 (2017) 1443-1455
- J23. Nicolas Émond, Akram Ibrahim, Badr Torris, **Ali Hendaoui**, Ibraheem Al-Naib, Tsuneyuki Ozaki, Mohamed Chaker, Impact of tungsten doping on the dynamics of the photo-induced insulator-metal phase transition in VO₂ thin film investigated by optical pump-terahertz probe spectroscopy, *Applied Physics Letters*, 111 (2017) 092105
- J22. N. Émond, **A. Hendaoui**, A. Ibrahim, I. Al-Naib, T. Ozaki, M. Chaker, Transmission of reactive pulsed laser deposited VO₂ films in the THz domain, *Applied Surface Science*, 379 (2016) 377–383
- J21. R. Rincón **A. Hendaoui**, J. de Matos, and M. Chaker, Synthesis of flat sticky hydrophobic carbon diamond-like films using atmospheric pressure Ar/CH₄ dielectric barrier discharge, *Journal of Applied Physics* 119 (2016) 223303
- J20. N. Émond, **A. Hendaoui**, M. Chaker, Low resistivity W_xV_{1-x}O₂-based multilayer structure with high temperature coefficient of resistance for microbolometer applications, *Appl. Phys. Lett.*, 2015, 107, 143507 (5 pp.)
- J19. V.R. Morrison, R.P. Chatelain, K.L. Tiwari, **A. Hendaoui**, A. Bruhacs, M. Chaker, B.J. Siwick, A photoinduced metal-like phase of monoclinic vanadium dioxide, *Science*, 346 (2014) 445-448
- J18. **A. Hendaoui**, N. Émond, S. Dorval, M. Chaker and E. Haddad, “VO₂-based smart coatings with improved emittance-switching properties for an energy-efficient near room-temperature thermal control of spacecrafts”, *Solar Energy Materials and Solar Cells*, 117 (2013) 494–498
- J17. **A. Hendaoui**, N. Émond, M. Chaker, and É. Haddad, “Highly tunable-emittance radiator based on semiconductor-metal transition of VO₂ thin films”, *Appl. Phys. Lett.*, 2013, Vol. 102, 061107 (4 pp.)
- J16. **A. Hendaoui**, N. Émond, S. Dorval, M. Chaker and E. Haddad, “Enhancement of the positive emittance-switching performance of thermochromic VO₂ films deposited on Al substrate for an efficient passive thermal control of spacecrafts”, *Current Applied Physics*, 2013, Vol. 13, pp. 875- 879
- J15. P. Anh Do, **A. Hendaoui**, E. Mortazy, M. Chaker, A. Haché, “Vanadium dioxide spatial light modulator for applications beyond 1200 nm”, *Optics Communications*, 2013, Vol. 288, pp. 23–26
- J14. A. Hache, B. Abdel Samad, M. Chaker, **A. Hendaoui**, and S. Vigne, "Electro-optic Switching of VO₂ for Infrared Spatial Light Modulation", in Conference on Lasers and Electro-Optics (CLEO), San Jose, California, United States _ June 9-14, 2013, OSA Technical Digest (online) (Optical Society of America, 2013), paper JW2A.56.
- J13. M. Andasmas, D. Vrel, N. Fagnon, T. Chauveau, **A. Hendaoui**, P. Langlois, “Phenomenological study of the densification behavior of Aluminum-Nickel powder mixtures during cold isostatic pressing and differential hydrostatic extrusion”, *Powder Technology*, 2011, Vol. 207, No. 1-3, pp. 304-310
- J12. **A. Hendaoui**, D. Vrel, A. Amara, P. Langlois, M. Andasmas, M. Guerioune, “Processing of high-purity polycrystalline MAX phases in the Ti-Al-C system by Mechanically Activated Self-propagating High-temperature Synthesis”, *Journal of the European Ceramic Society*, 2010, Vol. 30, No. 4, pp. 1049-1057

- J11. M. Andasmas, D. Vrel, N. Fagnon, T. Chauveau, **A. Hendaoui**, P. Langlois, "Extrusion-activated thermal explosion applied to intermetallics processing", *High Pressure Research*, 2009, Vol. 29, No 4, pp. 625 – 629
- J10. **A. Hendaoui**, D. Vrel, A. Amara, P. Langlois, M. Guérioune, "A Novel Method for Synthesis of Low-Cost Ti-Al-C-Based Cermets", *International Journal of Self-Propagating High-Temperature Synthesis*, 2009, Vol. 18, No. 4, pp. 267–272.
- J9. **A. Hendaoui**, D. Vrel, A. Amara, N. Fagnon, P. Langlois, M. Guérioune, "One Step Synthesis and Densification Of Ti-Al-C-based Cermets By ETEPC", *International Journal of Self-Propagating High-Temperature Synthesis*, 2009, Vol. 18, No. 4, pp. 263–266.
- J8. A. M. Stolin, D. Vrel, S. N. Galyshev, **A. Hendaoui**, P. M. Bazhin, and A. E. Sytshev, "Hot Forging of MAX Compounds SHS-Produced in the Ti–Al–C System", *International Journal of Self-Propagating High-Temperature Synthesis*, 2009, Vol. 18, No. 4, pp. 194–199.
- J7. **A. Hendaoui**, M. Andasmas, A. Amara, A. Benaldjia, P. Langlois, and D. Vrel, "Synthesis of High-Purity MAX Compounds by SHS in the Ti-Al-C System", *International Journal of Self-Propagating High-Temperature Synthesis*, 2008, Vol. 17, No. 2, pp. 129–135.
- J6. **A. Hendaoui**, D. Vrel, A. Amara, A. Benaldjia, and P. Langlois, "Ti–Al–C MAX Phases by Aluminothermic Reduction Process", *International Journal of Self-Propagating High-Temperature Synthesis*, 2008, Vol. 17, No. 2, pp. 125–128
- J5. D. Vrel, **A. Hendaoui**, P. Langlois, S. Dubois, V. Gauthier, and B. Cochepin, "SHS Reactions in the NiO–Al System: Influence of Stoichiometry", *International Journal of Self-Propagating High-Temperature Synthesis*, 2007, Vol. 16, No. 2, pp. 62–69.
- J4. W. Ramdane, B. Bendjemil, A. Hafs, **A. Hendaoui**, M. Guerioune, and D. Vrel, "Structural Characterization and Superconducting Properties of MgB₂ Prepared by SHS-Method", *International Journal of Self-Propagating High-Temperature Synthesis*, 2007, vol. 16, No. 4, pp. 207–212.
- J3. A. Amara, W. Rezaiki, A. Ferdi, **A. Hendaoui**, A. Drici, M. Guerioune, J.C. Bernède and M. Morsli, "Electrical and optical characterisation of CuInS₂ crystals and polycrystalline coevaporated thin films", *Solar Energy Materials and Solar Cells*, 2007, vol. 91, pp. 1916–1921
- J2. A. Amara, W. Rezaiki, A. Ferdi, **A. Hendaoui**, A. Drici, M. Guerioune, J.C. Bernède and M. Morsli, "Electrical properties of CuGaSe₂ single crystals and polycrystalline coevaporated thin films", *Physica Status Solidi (A) Applications and Materials*, 2007, vol. 204, pp. 1138–1146
- J1. M. Ali-Rachedi, **A. Hendaoui**, D. Vrel, W. Bounour, A. Amara and M. Guerioune, "Synthesis of dense TiC-based cermets by electro-thermal explosion under pressure with confinement", *International Journal of Self-Propagating High-Temperature Synthesis*, 2006, Vol. 15, No 4, pp. 308–313.

Book Chapter

B1. D. Vrel, **A. Hendaoui** and M. Andasmas, "Synthesis of Ti-Al-C MAX phases by aluminothermic reduction process", in "*M_{n+1}AX_n Phases: Microstructure, Properties and Applications*", Nova Science Publishers, 2012, ISBN: 978-1-61324-182-0, pp. 29–52.

Conference Presentations

Contributions to more than 45 conference presentations.