POLYTECHNIQUE MONTRÉAL
LE GÉNIE EN PREMIÈRE CLASSE

Ahmed Emam, PhD

- Montréal, Québec
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Education

- **Polytechnique Montreal, Montreal, QC, Canada** (since 2019)

  Ph.D. Student, Department of Chemical Engineering

- **Military Technical college (MTC), Cairo, Egypt** (2013-2016)

  M.Sc. Degree, Department of Chemical Engineering

- **Military Technical college (MTC), Cairo, Egypt** (2003-2009)

  B.Sc. Degree, Department of Chemical Engineering

PhD Thesis: Synthesis and characterization of nanothermites for energetic applications.

Research Interests

- Energetic materials.
- Missiles systems.
- Catalytic systems.
- Composite materials.
- Camouflage and obscuring.
- Nanotechnology.
- Energy and renewable energy.

Work Experience

• Technical Research Center (TRC), Cairo, Egypt	Research Associate	(2015-2019)
• Military Technical College (MTC), Cairo, Egypt	M.Sc. Student	(2013-2016)
• Technical Research Center (TRC), Cairo, Egypt	Research Assistant	(2011-2013)

Expertise

- ICT Thermodynamic Code simulation.
- AKTS Thermokinetics Software.

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- EXPLO5 Thermodynamic Code.
- Brabender GmbH & Co.KG equipment for simulation of pressure and torque.
- Thermal analysis equipment (DSC, TGA, DMA and STABIL).
- Instrumental chemical analysis.
- COMSOL simulation.

Journal Publications

• **Ahmed Fahd**, Sherif Elbasuney, "Combustion Wave of Metalized Extruded Double-Base Propellants", Fuel, Vol. 237, 1274-1280, https://doi.org/10.1016/j.fuel.2018.10.018, 2019.

• Sherif Elbasuney, Amir Elsaidy, Hesham Tantawy, Mohamed Kassem, **Ahmed Fahd,** Ramy Sadek, "Infrared Spectra of Customized Magnesium Teflon Viton (MTV) Decoy Flares, Combustion, Explosion, and Shock Waves, Vol. 55, No. 5, pp. 599–605, 2019.

• Ashraf M. A. Elghafour, **Ahmed Fahd**, Mostafa. A. Radwan, Hosam E. Mostafaa, Sherif Elbasuney, "Novel approaches to quantify the chemical stability and shelf life of modified based double-base propellants"**,** Defence Technology, Volume 14, Issue 6, Pages 720-72, https://doi.org/10.1016/j.dt.2018.07.003, December 2018.

• Ashraf M.A. Elghafour, Mostafa A. Radwan, Hosam E. Mostafa, **Ahmed Fahd**, Sherif Elbasuney "Highly energetic nitramines: A novel platonizing agent for double-base propellants with superior combustion characteristics"**,** Fuel, Vol. 227 (478-484), https://doi.org/10.1016/j.fuel.2018.04.117 , 2018

• Ashraf M. A. Elghafour, **Ahmed Fahd**, Mostafa. A. Radwan, Hosam E. Mostafaa, Sherif Elbasuney, **"**Novel aspects for thermal stability studies and shelf life assessment of modified double-base propellants " Defence Technology, https://doi.org/10.1016/j.dt.2018.09.005 , 28 September 2018.

• Sherif Elbasuney, Amir Elsaidy, Mohamed Kassem, Hesham Tantawy, Ramy Sadek, **Ahmed Fahd**, Mohamed Gobara, "Super-Thermite (Al/Fe_2O_3) Fluorocarbon Nanocomposite with Stimulated Infrared Thermal Signature via Extended Primary Combustion Zones for Effective Countermeasures of Infrared Seekers", Journal of Inorganic and Organometallic Polymers and Materials, https://doi.org/10.1007/s10904-018-0886-8, 2018.

• **Ahmed Fahd**, Sherif Elbasuney, Hosam E. Mostafa "Combustion characteristics of extruded double base propellant based on ammonium perchlorate/aluminum binary mixture", Fuel, Vol. 208 (296-304), http://dx.doi.org/10.1016/j.fuel.2017.07.020, 2017.

• Ramy Sadek, Mohamed Kassem, Mohamed Abdo, **Ahmed Fahd**, Hesham Tantawy, Amir Elsaidy, Sherif Elbasuney, "Novel colored flames via chromaticity of essential colors"**,** Defence Technology, https://doi.org/10.1016/j.dt.2018.05.002, 2018.

• **Ahmed Fahd**, Mostafa H.E, Elbasuney S, "Chemical stability, thermal behavior, and shelf life assessment of extruded modified double-base propellants", Defence Technology, Vol. 14 (70-76), https://doi.org/10.1016/j.dt.2017.11.003, 2018.

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• **Ahmed Fahd**, Mostafa H.E, Elbasuney S, "Certain ballistic performance and thermal properties evaluation for extruded modified double-base propellants", Central European Journal of Energetic Materials, ISSN No. 1733-7178, DOI: 10.22211/cejem/70206, Vol. 14(3), 2017.

Conference Publications

• Ashraf M. A. Elghafour, Mostafa. A. Radwan, Hosam E. Mostafa, **Ahmed Fahd**, Sherif Elbasuney, "Combustion characteristics of extruded nitramine double-base propellants", Proceedings of The 9th International Conference (2018) on Chemical and Environmental Engineering (ICEE-9), April 3 - 5, 2018.

• **Ahmed Fahd**. E, Hosam.E. Mustafa, Sherif Elbasuney, "Investigation of the Effect of Potassium Perchlorate and Ammonium Perchlorate on the Performance of Composite Modified Double Base Propellants", Proceedings of 16th International Conference on AEROSPACE SCIENCES & AVIATION TECHNOLOGY, May 26 - 28, 2015, ASAT - 16.

• Ahmed Hawass, Hosam E. Mostafa, Mohamed Elnegoumy, **Ahmed Fahd**, Mohamed Ismail, "Effect of Particle Size on the performance of MTV decoy flares Compositions", Proceeding of the 21st Seminar on New Trends in Research of Energetic Materials (NTREM), Pardubice, University of Pardubice, Faculty of Chemical Technology, Institute of Energetic Materials, April-18-20, 2018.

• Ahmed Hawass, Hosam E. Mostafa, Mohamed Elnegoumy, **Ahmed Fahd**, Mohamed Ismail, "Effect of pressing force on The Performance of MTV Flare Compositions", Proceeding of the 21st Seminar on New Trends in Research of Energetic Materials (NTREM), Pardubice, University of Pardubice, Faculty of Chemical Technology, Institute of Energetic Materials, April-18-20, 2018.

Under Publications

• **Ahmed Fahd**, Charles Dubois, Jamal Chaouki, J. Z. Wen, Ehab Youssef, "Synthesis and characterization of tertiary nanothermite CNMs/Al/$KClO_4$ with enhanced combustion characteristics", Propellants, Explosives, Pyrotechnics (PEP), 2021.

• **Ahmed Fahd**, Alex Baranovsky, Charles Dubois, Jamal Chaouki, J. Z. Wen, "Superior performance of quaternary NC/GO/Al/$KClO_4$ nanothermite for high speed impulse small-scale propulsion applications", Combustion and Flame, 2021.