Form Name:	National Armaments Consortium (NAC) Executive Committee Member Application Form 2026
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CANDIDATE INFORMATION

Name	Pascal Dube'
Title	CEO
Organization	MATSYS, Inc.
Organization Type	Small Business
Address	
Email	
Phone	

CANDIDATE STATEMENTS

Explain how your background, training, experience and/or personal qualities support your candidacy to assume a governance position on the Executive Committee. Provide resume as a separate attachment.	CEO of the industry leader of Reactive Materials, Advanced Warheads, and Critical Materials. 20+ years of experience in R&D, Prototyping, and Manufacturing, as well as Cooperative Research and Development Agreements (CRADA), several consortiums and contract vehicles/programs, and test and evaluation methods to validate munitions. Resume attached, and I apologize for it being a little bit dated, 2024, still lists me as President, though now I am CEO (John Kuenzli is our President).
Supporting Attachment(s)	
What do you see as the most significant challenge(s) facing the business type you will represent and how would you propose to address those challenges if elected?	Creating opportunities for small businesses to remain relevant in an environment heavily populated by Venture Capitalist backed companies, and to demonstrate their technical leadership in their respective fields. Helping small businesses expand their capabilities so they can deliver (as Primes) on the volumes the USG needs to acquire. Expanding access to Test and Evaluation capabilities and make T&E is more affordable for small businesses. Leveraging the NAC/DOTC as an audience as well as an amplifier for small businesses that join and a reason for more businesses to join.

Please describe the importance of the NAC to your organization and provide a synopsis of the participation in NAC/DOTC since becoming a member (e.g., number of proposal submissions, awards, industry days and membership meeting attended).	The NAC has been critical to our growth. We've been a member for over 15 years and are regular attendees to NAC meetings. The vast portion of our proposal submissions has gone through the NAC. Leveraged properly, the USG can acquire munitions and services with increasing effects in both the products and the means to acquire those products; and industry can rapidly learn to speak the same language and terms, understand the solicitations and contracts and be a better partner to the government. Battlefields are changing, our Armed Forces are trying to change to stay ahead of the pace with respect to lethality, affordability, and sustainability, and industry is watching all the changes asked for and the changes implemented by the government. That hasn't all gone to plan, rarely has it ever; so the NAC can be a lightning rod for the government and the industry members to learn, collaborate, accelerate, and deliver for the Nation!

WILLINGNESS TO SERVE CERTIFICATION

Signature	
Date	06/30/2026

MATSYS
Innovate. Prototype. Transition.

Pascal Dubé

Education
Post-doctoral fellow, University of California, Berkeley, 2005-2006
Ph.D., Organic Synthesis, University of Sherbrooke, Canada, 2005
B.S., Pharmaceutical Chemistry, University of Sherbrooke, Canada, 2000

Professional Experience

President – MATSYS Inc. July 2023-Present
- Define and implement strategic growth opportunities
- Identification of transformational materials and portfolio development
- Enabling commercial transitions of next-generation technologies – Valley of Death bridge builder
- Oversight of Business functions and Operations
- Establishment of strategic partnerships
- Development of Intellectual Property strategy

Director of R&D – MATSYS Inc. October 2017-July 2023
- Expansion of R&D portfolio
- Development of advanced materials – reactive materials and composites, metal ceramic alloys, high entropy alloys, multifunctional materials, semiconductors
- Development of alternative manufacturing technologies – high energy milling, microwave sintering, powder metallurgy/hot isostatic pressing (PM-HIP)
- Establishment of novel additive manufacturing feedstocks – filament composites, ink extrusion, metal powders
- Oversight of high energy milling and consolidation operations
- Talent identification and recruitment

Manager of Chemistry – Nalas Engineering October 2011-August 2017
- Development of novel chemistry for various energetic materials and their precursors
- Production of energetic materials & explosives on pilot scale
- Oversight of all chemistry operations and personnel
- Safety Manager for all operations

Senior Scientist, Chemical R&D – Pfizer December 2006-October 2011
- Lead of technical research groups
- Supervision of scale-up operations – gram to metric ton quantities
- Development of chemistry for Phase 1B to Phase III drug candidates
- Member of the Scientific Board for Pfizer's Chemical Research and Development

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Dr Dube is the President of MATSYS and oversees all operations including business development, commercial transitions, powder production, R&D and prototyping. Dr. Dubé is an expert in chemistry, reactive materials, polymer composites, energetic materials, project management, personnel management, formulation development and advanced characterization. After completing his post-doctoral fellowship at the University of California, Berkeley, he worked as a lead chemist at Pfizer's Chemical Research and Development. While at Pfizer, he led technical research groups, supervised scale-up operations and was a member of the Scientific Advisory Board for Pfizer's Chemical Research and Development. Dr. Dubé then transitioned to the position of chemistry Manager at Nalas Engineering from 2011 to 2017, where his work centered on the development and production of various energetic materials and their precursors. He joined MATSYS in 2017 as Director and was promoted to President in 2023. He has published numerous leading articles in many areas of chemistry, material science, and scale-up operations towards commercialization. Dr. Dubé was co-Chair of the 2013 Organic Reactions and Processes Gordon Conference.

Under Dr. Dube's leadership, MATSYS is transitioning several novel warhead technologies to the warfighter. From material design to production, our capabilities include prototyping and characterization, providing us with the unique ability to oversee the full development lifecycle of material-based technologies. MATSYS is currently setting up a manufacturing center for the XM1204 warhead with a production capability of 10,000 units/year in line with FRP of 40,000 in 2027.

A complementary focus of MATSYS is to bridge the Valley of Death that transformational materials and material-based technologies face. By enabling flexible LRP capabilities, we provide an early transition path for technologies to gain the necessary acceptance to disrupt entire industries. Our current focus includes: aluminum for hydrogen generation, refractory high entropy alloys, polymers for thermal protection systems and metal matrix composites, nano-structured powders, MAX phase materials and ceramic alloys.

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Publications

Material Science and Engineering

- C.L. Croessmann, C. Cagle, P. Dubé, J. Abraham, I. Altman, M.L. Pantoya, *Thermite and intermetallic projectiles examined experimentally in air and inert gas environments*, Journal of Applied Physics 131(17):175904.
- C. Woodruff, S.W. Dean, C. Cagle, C.L. Croessman, P. Dubé, M.L. Pantoya, *In-situ thermal analysis of intermetallic and thermite projectiles in high velocity impact experiments*, International Journal of Heat and Mass Transfer 2022, 187(2):122565
- Q. Tran, I. Altman, P. Dubé, M. Malkoun, R. Sadangi, R. Koch, M.L. Pantoya, *Direct demonstration of complete combustion of gas-suspended powder metal fuel using bomb calorimetry*, Measurement Science and Technology 2022, 33(4):047002
- I. Shancita, C. Cagle, I. Kalish, P. Dube, J. Abraham, B. Hammond, J. Warzywoda, M. L. Pantoya, *Tailoring Thermal Transport Properties by Inducing Surface Oxidation Reactions in Bulk Metal Composites,* ACS Applied Materials & Interfaces 2021, 12(15), 18358-18364.
- K.R. Bratton, K.J. Hill, C. Woodruff, C. Cagle, M. L. Pantoya, J. Abraham, L. Wei, P. Dube, *Tailoring Impact Debris Dispersion using Intact or Fragmented Thermite Projectiles*, *Journal of Applied Physics* **2020**, 128, 155108.

Chemical R&D and Manufacture

- Szewczyk, S. M., Zhao, Y., Sakai, H. A., Dube, P., Newhouse, T. R., *Dehydrogenation of esters with free O-H and N-H functionalities via allyl-palladium catalysis, Tetrahedron* **2018***, 74,* 3293
- A. Akin, M.T. Barrila, T.A. Brandt, A-M.R. Dechert-Schmitt, P. Dubé, D.D. Ford, A.S. Kamlet, C. Limberakis, A. Pearsall, D.W. Piotrowski, B. Quinn, S. Rothstein, J.S. Salan, L. Wei, J. Xiao, *A Scalable Route for the Regio- and Enantioselective Preparation of a Tetrazole Prodrug: Application to the Multi-Gram-Scale Synthesis of a PCSK9 Inhibitor, Org. Process Res. Dev. 2017, 21, 12, 1990-2000.*
- Paul Bowles, Steven J. Brenek, Stéphane Caron, Nga M. Do, Michele T. Drexler, Shengquan Duan, Pascal Dubé, Eric C. Hansen, Brian P. Jones, Kris N. Jones, Tomislav A. Ljubicic, Teresa W. Makowski, Jason Mustakis, Jade D. Nelson,* Mark Olivier, Zhihui Peng, Hahdi H. Perfect, David W. Place, John A. Ragan, John J. Salisbury, Corey L. Stanchina, Brian C. Vanderplas, Mark E. Webster, and R. Matt Weekly, *Commercial Route Research and Development for SGLT2 Inhibitor Candidate Ertugliflozin, Org. Process Res. Dev*. **2014**, *18*, 66.
- Joel M. Hawkins,* Pascal Dubé, Mark T. Maloney, Lulin Wei, Marcus Ewing, Stephen M. Chesnut, Joshua R. Denette, Brett M. Lillie, Rajappa Vaidyanathan*, *Synthesis of an H_3 Antagonist via Sequential One-Pot Additions of a Magnesium Ate Complex and an Amine to a 1,4-ketoester followed by Carbonyl-Directed Fluoride Addition, Org. Process Res. Dev*. **2012**, *16*, 1393.
- Gabriel Bellavance, Pascal Dubé,* Bao Nguyen, *Tetramethylfluoroformamidinium Hexafluorophosphate (TFFH) as a Mild Deoxofluorination Reagent, Synlett* **2012**, 569.
- Xavier Pigeon, Maxime Bergeron, Francis Barabé, Pascal Dubé,* Heather N. Frost, Jean-François Paquin, *Activation of Allylic C-F bonds: Pd-Catalyzed Allylic Amination Reaction of 3,3-Difluoropropenes, Angew. Chem., Int. Ed*. **2010**, *49*, 1123.

- Pascal Dubé,* Noah F. Fine Nathel, Michael Vetelino, Michel Couturier, Claude Larrivee Aboussafy, Simon Pichette, Matthew Jorgensen, Mark Hardink *Carbonyldiimidazole-Mediated Lossen Rearrangement, Org. Lett*. **2009**, *11*, 5622.
- Dave J. Gorin, Pascal Dubé, F. Dean Toste*, *Synthesis of Benzonorcaradienes by Gold(I)-Catalyzed [4+3] Annulation, J. Am. Chem. Soc.* **2006**, *128*, 14480.
- Pascal Dubé, F. Dean Toste*, *Synthesis of Indenyl Ethers by Gold(I)-Catalyzed Intramolecular Carboalkoxylation of Alkynes, J. Am. Chem. Soc.* **2006**, *128*, 12062.
- Michel Belley*, Effiette Sauer, Daniel Beaudoin, Petar Duspara, Laird A. Trimble, Pascal Dubé, *Synthesis and reactivity of N-hydroxy-2-aminoindoles, Tetrahedron Lett*. **2006**, *47*, 159.
- Amélie Dion, Pascal Dubé, Claude Spino*, *A Triple Diene-Transmissive Diels-Alder Strategy To Build the Quassinoid Framework, Org. Lett*. **2005**, *7*, 5601.
- Claude Spino*, Bryan Hill, Pascal Dubé, Stéphane Gingras, *A Diene-Transmissive Approach to the Quassinoid Skeleton, Can. J. Chem* **2003**, *81*, 81.
- Michel Couturier*, John L. Tucker, Caroline Proulx, Ghislain Boucher, Pascal Dubé, Brian M. Andresen, Arun Ghosh, *5,5-Dimethyl-1,4,2-dioxazoles as Versatile Aprotic Hydoxamic Acid Groups, J. Org. Chem.* **2002**, *67*, 4833.
- Michel Couturier*, Brian M. Andresen, Jeffrey B. Jorgensen, John L. Tucker, Frank R. Busch, Steve J. Brenek, Pascal Dubé, David J. am Ende, Joanna T. Negri, *Practical Large-Scale Synthesis of 3,4-Isopropylidenedioxypyrrolidine Hydrotosylate: Atom Economical Self-Hydrogenolysis of a Crystalline Borane-Benzylamine Adduct*, *Org. Process Res. Dev.* **2002**, *6*, 42.
- Michel Couturier*, John L. Tucker, Brian M. Andresen, Pascal Dubé, Joanna T. Negri, *Palladium and Raney Nickel Catalysed Methanolic Cleavage of Stable Borane-Amine Complexes, Org. Lett.* **2001**, *3*, 465.
- Michel Couturier*, Brian M. Andresen, John L. Tucker, Pascal Dubé, Steven J. Brenek, Joanna T. Negri, *The use of borane-amine adducts as versatile palladium-catalyzed hydrogen-transfer reagents in methanol, Tetrahedron Lett.* **2001**, *42*, 2763.
- Michel Couturier*, John L. Tucker, Brian M. Andresen, Pascal Dubé, Steven J. Brenek, Joanna T. Negri, *Palladium catalyzed activation of borane-amine adducts: rate enhancement of amine-borane methanolysis in the reduction of nitrobenzenes to anilines, Tetrahedron Lett*. **2001**, *42*, 2285.
- Michel Belley*, John Scheigetz, Pascal Dubé, Sarah Dolman, *Synthesis of N-Aminoindole Ureas from Ethyl-1-Amino-6-(trifluoromethyl)-1H-indole-3-carboxylate, Synlett* **2001**, *2*, 222.
- Daniel Chapdelaine, Pascal Dubé, Pierre Deslongchamps*, *A New Allylidene Phosphorane Reagent for the Efficient Conversion of Aldehydes to γ,δ-Unsaturated Allyl β-ketoesters, Synlett* **2000**, *12*, 1819.

Energetics and Explosives

- S. Rothstein, P. Dube, S.R. Anderson, *An Improved Process Towards Hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX), Propellants Explosives and Pyrotechnics 2017, 42(2), 126-130.*
- S.R. Anderson, P. Dube, M. Krawiec, J.S. Salan, D. am Ende, P. Samuels, *Promising CL-20-Based Energetic Material by Cocrystallization, Propellants Explosives and Pyrotechnics 2016, 41(5), 783-788.*

- D. D. Ford, S. Lenahan, M. Jorgensen, P. Dubé, M. Delude, P. E. Concannon, S. R. Anderson, K. D. Oyler, G. Cheng, N. Mehta, J. S. Salan, *Development of a Lean Process to the Lead-Free Primary Explosive DBX-1, Org. Process Res. Dev.* **2015**, *19*, 673.
- M. Krawiec, S.R. Anderson, P. Dubé, D.D. Ford, J.S. Salan, S. Lenahan, N. Mehta, C.R. Hamilton, Hydronium Copper (II)-tris(5-nitrotetrazolate) Trihydrate – A Primary Explosive, *Propellants Explosives and Pyrotechnics 2015, 40(4), 457-459.*

Inventor of 4 patents

Dr. Dubé has two US Patents on the preparation of energetic materials and their precursors. These patents are classified under the Invention Secrecy Act. He has one patent on the reaction of metal powders and their formulations, one pending application and several additional patents in preparation.

- 10,828,522 - Reactive metal powders & formulations
- Application US 63/256,005 - Apparatus and method for bulk structural modification of metallic materials at reduced temperatures

Author of 40+ presentations

Chair of the 2013 Organic Reactions and Processes Gordon Conference (http://www.grc.org/programs.aspx?year=2013&program=orgreac)