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Spanish (Limited working)  Italian (Elementary)  Hebrew (Elementary) Certifications Working at Heights Training  Aerial Lifts & Aerial Work Platforms  Fall Protection - Safety Training  Elevated Work Platform - SafetyTraining  Airport Security Awareness Training Certificate  Emergency First Aid – CPR and AED Publications Emission Measurements of VariousBiofuels using a Commercial Swirl-Type Air-Assist Dual Fuel Injector  Comparative Study for Biodiesel Properties and Standards for Gas Turbine | **JOACHIM AGOU**  Mechanical Aerospace Engineer | Systems Integration  Project Engineering | Project Management  Experienced mechanical aerospace engineer with a combined 10+ years of dedication and proven ability in project engineering, prototype design/development, systems integration, quality assurance, and manufacturing methodologies.  Throughout my various positions and projects in Aerospace and Energy industry, I always had pleasure forming trust-based relationships, solving complex customer problems, and leading teams to achieve challenging goals.  My guiding principles are simple: work hard, lead by example and deliver a positive impact on every professional and personal engagement. Experience **MDS Aero Support Corporation**  **Gas Turbine Applications Engineer (Systems Integrator)**  December 2013 — Present  Ottawa (ON), Canada   * Develop and deploy engine test facilities and test systems for aviation and industrial Gas Turbines with emphasis on Instrumentation and Software integration.   + A few projects I worked on:   Maintenance, Repair, and Overhaul (MRO) facilities:   * + - Air France Industries KLM Engineering & Maintenance (France) – CFM56, GE90, GP7200, GEnx     - GKN Aerospace (Sweden) – Volvo RM12 (Gripen fighter jet)     - Vector Aerospace (Canada) – P&WC JT15D (multiple variants)     - Lockheed Martin Commercial Engine Solutions (Canada) – CFM56 (multiple variants)     - Safran Aircraft Engine Services Morocco (Morocco) – CFM56 (multiple variants)   Research and Development (R&D) facilities:   * + - Rolls-Royce/ NASA Stennis Space Center (USA) – Outdoor Jet Engine Test Facility (development and certification testing)     - Safran Aircraft Engines (formerly Snecma) (France) – CFM LEAP (certification testing), CFM56 (endurance testing)     - MAN Energy Solutions (Germany) – Industrial Gas Turbine MGT6000-2S, MG8000-1S     - MDS AeroTest/ GLACIER Test Facility (Canada) – Emissions system support     - AVIC Commercial Aircraft Engines (ACAE) / Aeroengine Corporation of China (AECC) (China) – Fan, Booster, HPC, and Turbine (development testing) * Define the relevant engine and facility parameters to be measured and calculated by the Data Acquisition System (DAS) for engine turbine testing. * Configure Data Acquisition System (DAS), prepare post-analysis report templates, create real-time display pages, and automate test sequences to meet customer needs. * Design the customer's operations consoles and the integration of HMI to control and monitor the DAS and facility equipment. * Support customer's operations of engine testing during and beyond the commissioning phase (Field Service Representative) for extended periods (6+ months). * Prepare and review technical documents: Engineering Specifications (ES), Design Briefs (DB), drawings (GA), Purchase Requests (PR), and Engineering Coordination Memos (ECM) for data acquisition software components, control/test systems, console design, and customer support. * Write and run in-house and on-site Acceptance Test Procedures (ATP) to validate deliverables comply with contract technical and commercial requirements. * Participate in on-site installation and commissioning of the Data Acquisition System (DAS), including performing on-site Acceptance Test Procedures (ATP) with clients. * Use knowledge gained in the test cell environment to guide other engineering departments in the interpretation of customer requirements, and the design solutions required to meet those needs. * Provide on-site and remote customer training in collaboration with Customer Service.   **Siemens Canada (formerly Rolls-Royce Canada), Research and Technology**  **Combustion & Pollutant Emissions Engineer - Aerothermal (intern)**  January 2013 — August 2013  Montreal (QC), Canada   * Operated pollutants measurements with gas analyzers - FTIR/FID/O2 CEMS (Continuous Emission Monitoring Systems) - on Gas Turbine testbeds. * Improved emissions data processing and analysis of non-conventional pollutants emissions. * Evaluated the combustion performance of liquid (biodiesel blends) and gaseous (syngas blends) biofuels in terms of smoke & emissions and lean blow out. * Characterized promising liquid and gaseous novel biofuels for use in industrial Gas Turbines to reduce greenhouse gases and potentially operation costs. * Developed a robust numerical model for biofuels injection and combustion prediction (CFD). * Compared biofuels with baseline fuels to examine the benefits while maintaining an acceptable overall combustion performance.   **Combustion Research Laboratory at Laval University**  **Research & Teaching Assistant with Dr. Alain De Champlain**  January 2011 — December 2012  Quebec City (QC), Canada   * Developed biofuels (liquid & gaseous) applications for Gas Turbine and aircraft propulsion. * Operated combustion gas emissions monitoring of swirl combustor via FTIR (Fourier Transformation Infrared) – spectroscopy technology. * Executed experimental tests of spray using PIV (Particle Image Velocimetry). * Computed fluid dynamics prediction (CFD) of biodiesel spray including swirler configurations with emphasis on penetration depth, droplet size, velocity and spreading. * Designed and assembled experimental apparatus, conducted experiments, trained, and supervised international summer interns. * Hands on work like soldering electrical circuits, wiring instruments, and assembling process equipment (mass flow controllers, piping, pumps, pressure chambers, heaters, valves, injectors, and heat exchangers). * Deployed Data Acquisition System (DAS), calibrated instrumentation, performed tests, and troubleshot problems. * Compiled VBA program to collate and analyze a large volume of experimental data. * Critically analyzed data after tests and correlated it with empirical evidence. * Optimized the testing process to enhance data collection and established a benchmark for quantifying test results. * Authored comprehensive technical reports to document test protocol, safety procedures, equipment laboratory, and findings. * Successfully completed WHMIS and WORKSMART health and safety training programs. * Prepared MAE Thermodynamics lectures, showed demonstrations of experiential exercises, supervised laboratory lectures, and evaluated laboratory reports.   **Florida Institute of Technology**  **Independent Study in Mechanical Engineering with Dr. Razvan Rusovici**  January 2010 — June 2010  Melbourne (FL), USA   * Developed adaptive structures research and finite element analysis in fluid dynamics and acoustic via CAD and CAE software (Pro/E, ANSYS, and CFX).   **Florida Tech Motorsports (FIT)**  **Formula SAE Series with Stephanie Hopper and Dr. Youngsik Choi**  November 2008 — May 2009  Melbourne (FL) & Michigan International Speedway (MI), USA   * Supervised the powertrain division, dealing with engine management, differential, simulation, testing and optimization via CAD and CAE software (SolidWorks, Cosmos Design, and ANSYS). * Designed and fabricated the composite bodywork. * Created the Florida Tech Motorsports website.   **Prestige Dentaire**  **Service Engineer (intern)**  June — July 2006  Nice, France   * Executed maintenance of dental equipment. * Overhauled mechanical, plumbing, and electrical devices.   **Tsahal, Israeli Army Training Program**  **Military Experience (volunteer): Sar El Program**  July — August 2005  Hatzerim Air Force Base, Israel Skills & Abilities  * **Industry Knowledge:** System Integration, Systems Engineering, Project Engineering, Project Management, Aerospace Engineering , Business Strategy, Testing and Simulations * **Domain Expertise:** Turbomachinery, Gas Turbines/ Jet Engines/Propulsion, Data Acquisition Systems, Aerodynamics, Thermodynamics, Combustion, Fluid Dynamics * **Tools & Technologies** * **Computational Fluid Dynamics (CFD):** ANSYS FLUENT, CFX, ANSYS ICEM CFD (Mesh Generation), GAMBIT. * **Solid Modeling (CAD)/ Finite Element Analysis (FEA):** AutoCAD, SolidWorks, Pro/ENGINEER & Creo, CATIA, ANSYS Workbench Platform, ANSYS Parametric Design Language (APDL), Cosmos Design, Solid Concepts, CNC Software/Mastercam. * **Data Acquisition (DAQ):** NI LabVIEW, proDAS (MDS Aero Support Corp), LaVision FlowMaster (PIV). * **Development Tools:** Matlab, Java, MS Excel/VBA, SQL, HTML Programming, LaTex, Mediawiki, Wi-Fi security and pentesting (Kali Linux). * **Computer Skills:** Microsoft Office, NetBeans, MATLAB, Mathcad, Maple, Adobe Dreamweaver, Adobe Photoshop/ Lightroom, Adobe Premiere Pro, VMWare (Virtualization), Linux. * **Interpersonal Skills:** Problem Solving, Team Leadership, Engineering Management, Training, Teaching, Negotiation * **Languages:** English (Bilingual), French (Native), Spanish (Limited working), Italian (Elementary), Hebrew (Elementary)  Education **Laval University**  **Master of Science (M.S.), Mechanical Engineering with Experimental Thesis. (ABD)**  December 2013  Quebec City (QC), Canada   * Research Assistant (Combustion Laboratory). * Teaching Assistant (MAE Thermodynamics). * Laser Safety Certificate & WHMIS (Workplace Hazardous Materials Information System) qualified. * Relevant courses completed:   + Combustion Fundamentals (+CFD)   + Internal Combustion Engines (+CFD)   + Propulsion/ Air-breathing Engines (+CFD)   + Data Acquisition and Signal Conditioning   + Systems Optimization   + Control Systems   **Carleton University**  **Summer Program, Mechanical Engineering**  Summer 2012  Ottawa (ON), Canada   * Experimental tests of spray using PIV (Particle Image Velocimetry) and PDPA (Phase Doppler Particle Analyzer).   **Florida Institute of Technology**  **Bachelor of Science, Mechanical Engineering *(transfer student)*\***  May 2010  Melbourne (FL), USA   * Formula SAE member. Powertrain Division and Bodywork designer. * Relevant courses completed:   + Computer-Aided Engineering   + Aerodynamics and Flight Mechanics   + Design of Machine Elements   + Mechanical Vibrations   + Fluid Mechanics (+Lab)   + Heating Ventilation and Air Conditioning (HVAC)   + Mechanical Engineering Design 2   + Thermal Systems Design   + Thermodynamics 2   + Heat Transfer (+Lab)   + Control Systems   + Electric & Electronics Circuits   + Theory of Machines   + Materials Science and Engineering (+Lab)   + Calculus 3   + Boundary Value Problems   + Technical Communication   + Engineering Economy & Planning   + Music Theory   **SKEMA Business School (formerly Euro-American Institute of Technology)**  **Bachelor of Science, Mechanical Engineering *(transfer student)*\***  January 2007  Sophia Antipolis, France   * Relevant courses completed:   + Thermodynamics 1   + Aerodynamics   + Statics & Dynamics   + Deformable Solids   + Physics 2 (+Lab)   + Computer Aided Design and Drafting   + Software Development: Java & C++   + General Chemistry   + Ethics   \* Florida Institute of Technology and SKEMA Business School were part of a dual-degree program, and thus share a common graduation project.  **Lycée Général et Technologique Les Eucalyptus**  June 2004  Nice, France   * High school, Baccalauréat Science Stream (S), Specialization Physics & Chemistry, Option Engineering Sciences.  Publications / Conference Papers  * J. Agou, B. Paquet & A. deChamplain. “[**Emission Measurements of Various Biofuels using a Commercial Swirl-Type Air-Assist Dual Fuel Injector**](http://joa.ag/CICS2013article)” ([with presentation](http://joa.ag/CICS2013keynote))*,* *The Combustion Institute Canadian Section (CICS), Spring Technical Meeting, Université Laval, Quebec, Canada, May 13-16, 2013* * M. Youssef, J. Agou, B. Paquet & A. deChamplain. “[**Comparative Study for Biodiesel Properties and Standards for Gas Turbine**](http://joa.ag/CICS2012article)” ([with presentation](http://joa.ag/CICS2012keynote))*,* *The Combustion Institute Canadian Section (CICS), Spring Technical Meeting, University of Toronto, Ontario, Canada, May 13-16, 2012*  Certifications & Trainings  * [**Aerial Lifts & Aerial Work Platforms**](http://joa.ag/AerialWork), Worksite Safety Compliance Center, Certificate 156AWP-64 * **Airport Security Awareness Training Certificate**, Butterfly Aero Training, License GB81580A20140623 * **Elevated Work Platform - Safety Training**, CRS Contractors Rental Supply * [**Emergency First Aid – Cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED)**](http://joa.ag/EmergencyFirstAidCPR), Canadian Red Cross, Jennifer Sybrandy, Certificate 30200842 * **AODA Customer Service Training**, MDS Aero Support Corporation * **Fall Protection - Safety Training**, CRS Contractors Rental Supply * **Instant HR - Workplace Hazards Training**, MDS Aero Support Corporation * **Laser Safety Certificate**, Université Laval, License CAN/CSA E-60825-1:03; IEC 60825-1 * **Lockout/Tagout - Control of Hazardous Energy Training**, MDS Aero Support Corporation * **NEXUS**, Canada Border Services Agency * **Occupational Health and Safety Awareness Training for Workers in Ontario**, MDS Aero Support Corporation * **WHMIS Training**, MDS Aero Support Corporation * **WHMIS (Workplace Hazardous Materials Information System)**, Université Laval * **Working at Heights Training**, Safety Training Ottawa, Debbie Desaulniers  Awards **Engineering & Science Student Design Showcase**  April 2009  Melbourne, FL   * Best Mechanical Engineering Senior Design Project award with Formula SAE Project (Florida Tech Motorsports).  Groups & Associations  * **American Society of Mechanical Engineers (ASME)**, [Member #102114839](https://joa.ag/MembershipASME) * **Society of Automotive Engineers International (SAE)**, Member since 2009 * **Professional Engineers and Geoscientists Newfoundland & Labrador (PEGNL)**  Interests Soccer, Karate (purple belt), Windsurfing (purple sail), Wakeboarding, Cycling, Skiing.  Cinema, Music (DJ), Photography & Graphic Design, Traveling, High-Tech, Innovation. References **John Perrin**  Manager of nxDAS group  MDS Aero Support Corporation, Suite 200, 1220 Old Innes Road, Ottawa, Ontario, K1B 3V3, Canada  Phone: +1 (613) 744-5794 x2358  E-mail: [john.perrin@mdsaero.com](mailto:john.perrin@mdsaero.com)  **Qing Li**  Software Specialist, Manager of Applications group  MDS Aero Support Corporation, Suite 200, 1220 Old Innes Road, Ottawa, Ontario, K1B 3V3, Canada  Phone: +1 (613) 744-5794 x2284  E-mail: [qing.li@mdsaero.com](mailto:qing.li@mdsaero.com)  **Christian Bourgeois**  Director of Measurement Engineering  MDS Aero Support Corporation, Suite 200, 1220 Old Innes Road, Ottawa, Ontario, K1B 3V3, Canada  Phone: +1 (613) 744-5794 x2233  E-mail: [christian.bourgeois@mdsaero.com](mailto:christian.bourgeois@mdsaero.com)  **Dr. Alain de Champlain**  Director & Professor, Head of Combustion Research Laboratory.  Department of Mechanical & Aerospace Engineering Laval University, 1065 Avenue de la Médecine, Quebec City, Quebec, G1V 0A6, Canada  Phone: +1 (438) 656-2131 x2198  E-mail: [alain.dechamplain@gmc.ulaval.ca](mailto:alain.dechamplain@gmc.ulaval.ca)  **Bernard Paquet**  Research Engineer, Supervisor of Combustion Research Laboratory.  Department of Mechanical & Aerospace Engineering Laval University, 1065 Avenue de la Médecine, Quebec City, Quebec, G1V 0A6, Canada  Phone: +1 (438) 656-2131 x6809  E-mail: [bernard.paquet@gmc.ulaval.ca](mailto:bernard.paquet@gmc.ulaval.ca)  **Dr. Robert Gordon**  Combustion Specialist, Team Leader of Research & Technology division.  Rolls-Royce Canada, 9500 Côte de Liesse, Montreal, Quebec, H8T 1A2, Canada  Phone: +1 (514) 636-0964 x7316  E-mail: [robert.gordon2@rolls-royce.com](mailto:robert.gordon2@rolls-royce.com)  **Dr. Yan Grasselli**  Academic Head of Bachelor programs and Head of the Environmental and Marine Sciences Bachelor department.  SKEMA Business School, 60 rue Dostoïevski, 06902 Sophia Antipolis, France  Phone: +33 (0) 4 93 95 44 03  E-mail: [yan.grasselli@skema.edu](mailto:yan.grasselli@skema.edu)  Personal references available upon request. |