

# KEITH WAKEHAM

50A Stamps Lane  
St. John's, NL, Canada  
A1B 3H6  
(709) 689-8215; (709) 753-7894  
kwakeham@mun.ca

## EDUCATION

- 2003-Present                    **Memorial University of Newfoundland**, St. John's, NL, Canada  
Faculty of Engineering and Applied Science  
Currently enrolled in Term 8 of 8 Bachelor of Mechanical Engineering Co-op Program  
Graduation Date April 2009
- 2003                                **Holy Spirit High School**, Manuels, NL, Canada  
Graduated with honours  
Completed 3 Advanced Placement Courses with University equivalency

## EMPLOYMENT

- Sept 2008 – Current            **General Motors of Canada, Oshawa Car Plant**                    Oshawa, ON, Canada  
*Maintenance Group Leader- Paint Shop*
- Managed a maintenance department dealing with conveyors, robots, and corrosion protection
  - Organized preventative maintenance work and directed trades people in responding to breakdowns
  - Collaborated with engineering in implementing new vehicle related processes
- Jan 2008 – April 2008        **General Motors of Canada, Oshawa Car Plant**                    Oshawa, ON, Canada  
*Production Group Leader- Final Assembly*
- Managed workers doing assembly of engines and wheels for Chevrolet Impala and Buick La Crosse
  - Implemented key parts of GM's Global Manufacturing Systems initiatives including job rotation
  - Assisted team leaders in reviewing and implementing changes to job elements on production line
  - Developed engine tooling to alleviate operators ergonomic issues and is still in use
- May 2007 – August 2007      **Marine Institute Offshore Safety and Survival Center**            St. John's, NL, Canada  
*Research assistant for Condition 18 Trials*
- Involved in Sea trials intended to verify rescue vessel capabilities for installations in Atlantic ocean
  - Aided in the development of prediction model based on multiple data sources (video, GPS, written logs)
  - Designed improved prediction model that characterized vessel accelerations for more accurate rescue times
  - Proposed redesigned portable harsh environment recording equipment setup
- Sept 2006 – Dec 2006        **Marine Institute Offshore Safety and Survival Center**            St. John's, NL, Canada  
*Research Assistant for SARnif 150 Towing Trials*
- Worked long days on Ocean research vessel as part of research team under physically demanding environment
  - Heavily involved with field motion capture through video and digital video recorders
  - Analyzed video tracking tow line to determine direction of force
  - Wrote detailed training manual for setup, capture, and motion tracking for unpredictable environments
- Jan 2006 – April 2006        **Charon (student startup company)**                                    St. John's, NL, Canada  
*Founder*
- Programmed reconfigurable logic device for recording video direct to ATA standard hard drives
  - Developed code to read from hard drive to match standard SMPTE 292 specifications for HD video output
  - Designed printed circuit boards for CCD drivers and Analog Digital converter
- June 2005 – August 2005      **Design Management Group**    Gander, NL, Canada  
*Engineering Assistant*
- Updated city master plans to reflect as built plans in AutoCAD
  - Surveyed for Commercial building sites

## Skills

### **Metalwork**

- Manual machining experience on metal lathes and turret mills
- Experience machining a variety of metals including aluminum, brass, steel, stainless steel, and titanium alloys
- Extensive use of material properties for mechanical, thermal, vibration, and electromagnetic in design
- CNC experience with MasterCAM X and small 3 and 4 axis CNC mills
- Mig and Arc welding experience and understanding of metal fusion processes

### **Drafting and mechanical design**

- Extensive CAD background with focus on Solid modeling
  - Primary Focus on Solidworks and supporting applications
  - Intermediate experience with Pro Engineer and some exposure to Catia
  - Adept in AutoCAD
- Experienced with engineering analysis using FEA programs such as Ansys Workbench and Cosmos
  - Static and dynamic mechanical loadings (Ansys Multiphysics and Cosmos)
  - CFD including transient and moving mesh analysis as well as fluid structure interaction (Ansys CFX)
  - Static Electromagnetic simulation (Ansys Multiphysics)
  - Strong background in understanding material properties for simulation and there application

### **General office and computer skills**

- Well versed in Office packages such as Microsoft Office and Visio and Project
- Strong background in image and video editing, manipulation, and analysis
- Knowledgeable in the use of Matlab, Simulink, and Maple for simulation purposes

### **Certification**

- Valid driver's license with defensive driver training course
- Occupational Health and Safety Certified by Memorial University in March 2005
- Completed Emergency First Aid training in 2005

## Interests

### **Alternative Energy Automotive and design**

- Leader in senior mechanical design project investigating hydrogen combustion engines
- Interested in alternative vehicles and propulsion systems; free time spent designing and researching
- Initiated K1 electric car project to gain valuable design experience for desired career path
- Well researched in battery technologies such as lithium ion, lithium polymer, and lithium iron phosphate
- Strong understanding of available fuel cell technologies and limitations of PEM fuel cells
- Designed and simulated multiple Formula SAE space frames in FEA for size and weight optimization
- Writing book encompassing chassis design theory, optimization, and simulation using Finite Element Analysis

### **General Interests**

- Mountain biking; Trail riding, cross country, commuter cycling, training
- Photography; Local interests, automotive

References available upon request