

**CARLETON UNIVERSITY**  
**Department of Mechanical and Aerospace Engineering**  
**PH.D. THESIS EXAMINATION**

**CANDIDATE:** *Abubaker A A Alatrash*  
*Master of Science, University of Newcastle Upon T, 2009*

**DATE:** *Friday April 27, 2018, 10:00 2014 Minto*

**THESIS TITLE:** *Experimental and Numerical Study of Inhaler Spray Characterization (Size Distributions and Velocity)*

**EXAMINATION BOARD:**

<b>External Examiner</b>	Suresh Dhaniyala, Clarkson University	(Video Conference)
<b>Internal Examiner</b>	Jeff Dawson, Department of Biology	(In Person)
<b>Committee Member</b>	James McDonald, University of Ottawa	(In Person)
<b>Committee Member</b>	Tarik Kaya, Department of Mechanical and Aerospace Engineering	(In Person)
<b>Thesis Supervisor</b>	Edgar Matida, Department of Mechanical and Aerospace Engineering	(In Person)
<b>Chair/Director of Department or Designate</b>	Ronald Miller, Department of Mechanical and Aerospace Engineering	(Ex-officio)
<b>Dean of Faculty</b>	Fred Afagh, Faculty of Engineering & Design	(Ex-officio)
<b>Dean, Faculty of Graduate and Postdoctoral Affairs</b>	Matthias Neufang, Faculty of Graduate & Postdoctoral Affairs	(Ex-officio)

---

**Matthias Neufang**  
**Dean, Faculty of Graduate and Postdoctoral Affairs**