

CURRICULUM VITAE

a) NAME AND TITLES:

Marcello Papini, Ph.D., P.Eng.
Professor
Tier II Canada Research Chair

b) DEGREES:

Ph.D., Mechanical Engineering, University of Toronto, Canada, 1999
MAsc, Mechanical Engineering, University of Toronto, Canada, 1993
BAsc, Mechanical Engineering, University of Toronto, Canada, 1991

c) EMPLOYMENT HISTORY:

2010- Professor, Department of Mechanical and Industrial Engineering,
Ryerson University

2003-2010 Associate Professor, Department of Mechanical and Industrial
Engineering, Ryerson University

2004- Professor, Status Only, Department of Mechanical and Industrial
Engineering, University of Toronto

1999-2003 Assistant Professor, Department of Mechanical, Aerospace, and
Industrial Engineering, Ryerson University

1993-98 Teaching Assistant, Dept. of Mechanical and Industrial Engineering,
University of Toronto

1992-98 Research Engineer, Dept. of Mechanical and Industrial Engineering,
University of Toronto

d) HONOURS:

2016-pres Associate Editor, *Wear*

2016 Invited Talk, Micro-Machining with Abrasive Jets, Ontario on a Chip,
Toronto, On, May 2016.

- 2015-pres Member, Editorial Board, *Wear*
- 2013-15 Member, E.W.R. Steacie Memorial Fellowship Evaluation Committee. This committee recommends the top award in Science and Engineering in Canada.
- 2013 Fellow, Canadian Society for Mechanical Engineering
- 2012 Tier II Canada Research Chair in Abrasive Jet Technology (renewal)
- 2011 Ryerson University Scholarly Research and Creativity (SRC) award
- 2011 Invited speaker, Asia-Pacific Workshop On Materials Characterization, Anna University, Chennai, India (Could not attend due to visa problems)
- 2010 Faculty of Engineering, Architecture, and Science Faculty Convocation Address.
- 2009-11 Natural Sciences and Engineering Research Council (NSERC) Discovery Accelerator Supplement
- 2009 Ryerson University Scholarly Research and Creativity (SRC) award
- 2009-12 Member, Natural Sciences and Engineering Research Council (NSERC), Discovery Grant Evaluation Group 1512. This committee evaluates all base funding (Discovery) grants for Mechanical Engineering in Canada. I was co-chair in 2012.
- 2007 Tier II Canada Research Chair in Abrasive Jet Technology
- 2006 Best Paper Award at the London Hip Meeting, May 18th, 2006 (see conference publications)
- 2005 Ryerson University Research Award
- 2004 Ryerson Faculty of Engineering and Applied Science Research Excellence Award
- 2003 Invited speaker, International Conference on Erosive and Abrasive Wear (ICEAW II), Sept. 22-25, 2003, Churchill College, Cambridge University, Cambridge, UK
- 2002 Early tenure (3 years)

Scholarships:

- 1997-98 University of Toronto Open Fellowship.
- 1995-97 Natural Sciences and Engineering Research Council of Canada (NSERC) PGS-B scholarship.
- 1991-93 Natural Sciences and Engineering Research Council of Canada (NSERC) PGS-A scholarship.
- 1990 Natural Sciences and Engineering Research Council of Canada (NSERC) University Undergraduate Research award.

e) **SCHOLARLY AND PROFESSIONAL ACTIVITIES:**

Research Interests:

Solid particle erosion, abrasive jet micromachining, wear, particle impact, fatigue and fracture, solid mechanics, orthopaedic biomechanics

Grant Reviewing, Editorships, Publication Reviewing and Conference Organization

- 2016-pres Associate Editor, *Wear*
- 2015-16 Member, Editorial Board, *Wear*
- 2015 Co-chair of 2 technical sessions at 2015 Wear of Materials conference, Toronto, ON, April, 2015
- 2013-15 Member, Steacie Fellowship Evaluation Committee, NSERC.
Responsibilities: Reviewing, scoring and discussing (two day meeting) approximately 25 applications for the most prestigious award in Science and Engineering in Canada.
- 2014 Member, Common CV Consultation Group, NSERC/CIHR.
Responsibilities: Testing and providing feedback for the implementation of the new Canada-wide standardized CV for grant applications in Science, Engineering, Health, and the Social Sciences/Humanities.
- 2013 Appeal advisor, NSERC Discovery Grants
Responsibilities: Reviewing appeals arising from NSERC Discovery Grant funding decisions and providing recommendations on whether specific appeals should be granted or rejected.

- 2013 Co-chair of 2 technical sessions at 2013 Wear of Materials conference, Portland, Or, USA, April, 2013.
- 2012 Co-chair, Natural Sciences and Engineering Research Council of Canada (NSERC) Evaluation Group 1512 (Mechanical Engineering: Solid Mechanics).
Responsibilities: Reviewing and scoring approximately 70 research tools and instruments and discovery grants for mechanical engineering from across Canada. Meeting for a week long evaluation meeting in Ottawa each year. Additional co-chair duties include attending 2 day training/orientation meeting for newly recruited committee members, and the chairing of the week long evaluation meetings in Ottawa.
- 2011 Co-chair of 2 technical sessions at 2011 Wear of Materials conference, Philadelphia, PA, USA, April, 2011.
- 2011-pres Wear of Materials (WOM) Category Field Editor for Erosion, Cavitation, and Impact Wear.
Responsibilities: Collecting, selecting reviewers and editing papers submitted in this category to WOM conferences, for publication in a special issue of the journal *Wear*. For the 2015 conference, I was in a small group of editors to meet in Massachusetts and review hundreds of abstracts to be selected for invitation to WOM.
- 2009-12 Member, NSERC Evaluation Group 1512 (Mechanical Engineering: Solid Mechanics).
Responsibilities: Reviewing and scoring approximately 70 Research Tools and Instruments and Discovery Grants for mechanical engineering from across Canada. Meeting for a week long evaluation meeting in Ottawa each year.
- 2009-pres Member, Wear of Materials (WOM) Steering Committee, one of the largest and most important conferences in Wear.
Responsibilities: Publicity Chair in charge of WOM website design and maintenance, and other activities to promote WOM. Voting member for WOM policy and organization issues.
- 2009 Co-chair of 3 technical sessions at 2009 Wear of Materials conference, Las Vegas, Nevada, April, 2009.
- 2007 Co-chair of the Biomechanics Symposium, 2007 CANCAM conference, Ryerson University, June, 2007.
- 2006 Co-chair of the Biomechanics Symposium at the 2006 CSME Forum in

Kananaskis, Alberta

- 2006 Member of Technical Committee, Co-editor of conference proceedings, 21st Canadian Congress of Applied Mechanics (CANCAM), June 3-7, 2007, Toronto, Ontario, Canada.
Responsibilities: Researched and negotiated contract for production of CD-ROM proceedings; established guidelines for submission, numbering and tracking of approximately 400 papers in 7 symposiums.
- 1999-pres Referee for numerous manuscripts for various journals including: *Wear, ASME Journal of Biomedical Engineering, Journal of Materials Processing Technology, Journal of Polymer Research, Applied Composite Materials, Clinical Biomechanics, Computer Methods and Programs in Biomedicine, Journal of Micromechanics and Microengineering, Journal of Biomechanics, Materials Science and Engineering, Medical Engineering and Physics, Journal of Biomedical Materials Research B, International Journal of Machine Tools and Manufacture, International Journal of Advanced Manufacturing Technology, ASME Journal of Tribology, Tribology International, Precision Engineering, International Journal of Mechanical Sciences, Journal of Manufacturing Processes.*
- 1999-pres Reviewer of numerous grant proposals, including: NSERC CFI (including site visits), NSERC Discovery Grant (average of 3 per year), NSERC Strategic Project, NSERC Collaborative Health Research Project, NSERC Collaborative Research and Development Grant, Tier I and II Canada Research Chair Nominations and Renewals, Materials and Manufacturing Ontario Collaborative Grants, NSERC College and Community Innovation Programs, and Engineering Reports for Professional Engineers Ontario.

Service Activities (Dates are by Academic Year)

University Level:

- 2014 Mentor, Ryerson University SRC Network
- 2014-15 Testified at tenure appeal hearing.
- 2014 Delivered seminar: “How to write a journal publication” attended by many researchers and graduate students university wide.
- 2012 Delivered presentation to MIE faculty at University of Toronto and Ryerson University on how to write an effective NSERC Discovery Grant

- 2011-12 Member, Provost's Working Group on International Graduate Student Policies
- 2011 Member, VP Research's NSERC Boot Camp Workshop for writing effective NSERC grants
- 2011 Delivered seminar: "How to write a journal publication" attended by many researchers and graduate students university wide.
- 2010 Address to convocation, Faculty of Engineering, Architecture and Science, Ryerson University
- 2009-10 Delivered seminars on how to be successful on NSERC Discovery Grants at Ryerson (faculty-wide), as well as at the Department of Aerospace Engineering Retreat, and at the Department of Mechanical and Industrial Engineering Dept. Meeting.
- 2009-10 Photographed and interviewed for Ryerson University Corporate Brochure
- 2009-10 Photographed for Ryerson publicity related to my PhD student winning the Vanier Scholarship
- 2008-09 Member, CRC Policies Committee
- 2007-08 Member, Vice President of Research and Innovation Office Review
- 2007-08 Member, CFI Internal Strategy Committee
- 2004-05 Gave interviews to University Advancement for two features in FEAS annual report
- 2004-05 Gave interviews to Ryerson Journalism students for NSERC Spark program
- 2003-04 Gave seminar to faculty for Office of Research Service's Strategic Grant Writing Workshop

Faculty Level:

- 2015 Member, FEAS Research Strategic Plan Committee
- 2014 Mentor, FEAS Mentorship Program
- 2013 Elected member, FEAS Dean Selection Committee

- 2012 Member, Ontario Trillium Scholarship Selection Committee
- 2012 Member, Special Search Committee for Biomedical Engineering and Biomedical Science Faculty Members
- 2010 Member, Faculty of Engineering Architecture, and Science SRC Award Committee.
- 2009-10 Photographed and interviewed for FEAS Faculty Annual Report
- 2009-10 Chair, Ad-Hoc Committee on Workload Redress
- 2008-09 Member, Faculty of Engineering, Architecture, and Science (FEAS) Research Plan Committee
- 2008-09 Member, Faculty of Engineering, Architecture, and Science Merit Committee
- 2008-09 Member, Faculty of Engineering, Architecture, and Science Promotions Committee
- 2007-08 Member, Faculty of Engineering and Applied Science Merit Committee
- 2005-06 Member, Faculty of Engineering and Applied Science Merit Committee
- 2005-06 Interviewed by Ms. Laura Bil for a story on Collaborations in the Biosciences for the FEAS Annual Report
- 2004-05 Member, Faculty of Engineering and Applied Science Merit Committee
- 2004-05 Member, Faculty of Engineering and Applied Science Departmental Development Committee
- 2004-09 Member, Faculty of Engineering, Architecture, and Science, Biomedical Engineering Steering Committee
- 2003-04 Member, Department Appointments Committee
- 2003-04 Member, Faculty of Engineering and Applied Science Research Assistant Selection Committee

Departmental Level:

- 2016 Member, Department Evaluation Committee (DEC), Department of Mechanical and Industrial Engineering
- 2015 Elected member, Department of Mechanical and Industrial Engineering Chair Search Committee
- 2015 Chair, Department of Mechanical and Industrial Engineering Strategic Research Plan Committee
- 2014-pres Editor of bimonthly Department of Mechanical and Industrial Engineering Newsletter.
- 2013 Elected member, Dept. Mech and Indus Eng, Department Evaluation Committee (DEC)
- 2011-12 Member, Search Committee for Chair of Dept. of Mechanical and Industrial Engineering
- 2011-14 Speaker of Departmental Council
- 2010-11 Member, Department Appointments Committee
- 2009-10 Member, Department Appointments Committee
- 2008-09 Member, Department Appointments Committee
- 2008-09 Master of Ceremonies, Department Awards Night
- 2007-08 Member, Department Appointments Committee
- 2005-06 Editor of biweekly Department of Mechanical and Industrial Engineering Newsletter.
- 2004-06 Speaker of Departmental Council
- 2004-05 Member, Department Appointments Committee
- 2004-05 Member of Departmental Instructor Appointment Committee
- 2004-05 Member of Appointments Committee for Department Office Staff
- 2004-05 Secretary, Departmental Retreat
- 2003-04 Member, Departmental Public Relations Committee – organized and

- set up faculty and support staff photographs
- 2002-03 Member, Department Appointments Committee
- 2002-03 Member, Departmental Public Relations Committee – organized and set up faculty and support staff photographs
- 2002-03 Gave presentation on documentation to submit for tenure and promotion during the Department’s Tenure Review Workshop.
- 2001-02 Member, Department Industrial Advisory Committee

f) GRADUATE AND OTHER HQP SUPERVISION:

Summary

Completed:

- 3 Postdoctoral Fellow
- 14 Ph.D.
- 31 M.A.Sc
- 3 M.Eng.
- 32 Undergraduate Research Assistants
- 1 Other

In Progress:

- 3 Postdoc
- 8 Ph.D
- 4 M.A.Sc
- 1 Undergraduate Research Assistant

Supervision of Post-Doctoral Fellows:

- 2016-pres Naser Haghbin, Department of Mechanical and Industrial Engineering, Ryerson University, “Masked abrasive waterjet micro-machining.”
- 2016-pres Vahid Hadavi, Department of Mechanical and Industrial Engineering, Ryerson University, “Numerical simulation of multiple particle embedding in composite materials”
- 2016-pres Mohammad Reza Sookhklari, Department of Mechanical and Industrial Engineering, Ryerson University, “Smoothing of abrasive jet micro-machined surfaces using inverse methods”
- 2015-16 Ihab El Sawi, Department of Mechanical and Industrial Engineering,

Ryerson University, “Comparison of fatigue strength of composite panels machined using abrasive waterjets and traditional tools.”

- 2008-11 David Ciampini, **Ryerson Post Doctoral Fellowship Award Winner**, Department of Mechanical and Industrial Engineering, Ryerson University, “Cellular automaton simulation of developing erosion profiles,” sole supervisor, completed.
- 2009-12 Sharokh Azari, Department of Mechanical and Industrial Engineering, University of Toronto, “Prediction of S-N curves using fatigue crack growth data for adhesive joints”, co-supervisor, completed.

Supervision of PhD Students:

- 2016-pres Navid Heydarzadeh, Department of Mechanical and Industrial Engineering, Ryerson University, “Numerical modeling of the erosion of composite materials”, sole supervisor, in progress. Expected Completion Date: September 2020.
- 2016-pres Ehsan Azarsa, **2016 Ontario Trillium Scholarship Winner**, Department of Mechanical and Industrial Engineering, Ryerson University, “Roughness modeling for ductile materials”, sole supervisor, in progress. Expected Completion Date: September 2020.
- 2014-pres Mike Matinmanesh, Department of Mechanical and Industrial Engineering, Ryerson University, “Analysis and testing of orthopaedic implants with bioglass coatings”, principle supervisor, in progress. Expected Completion Date: September 2018.
- 2014-pres Yiming Li, Department of Mechanical and Industrial Engineering, Ryerson University, “Development of bioglasses for orthopaedic implants”, co-supervisor, in progress. Expected Completion Date: September 2018.
- 2014-pres Omar Rodriguez, Department of Mechanical and Industrial Engineering, Ryerson University, “Bioglass coatings for orthopaedic implants”, co-supervisor, in progress. Expected Completion Date: September 2018.
- 2013-pres Jeff Schwarzentruher, **2015 and 2016 Ontario Graduate Scholarship (OGS) Winner**. Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive waterjet machining of composites”, principal supervisor, in progress. Expected Completion Date: September 2017.

- 2013-pres Kavin Kowsari, Department of Mechanical and Industrial Engineering, University of Toronto, “Abrasive slurry jet micromachining of ceramics and ceramic/metal constructs”, co-supervisor, in progress. Expected Completion Date: June, 2017.
- 2013-pres Ali Nouhi, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet micro-machining of highly curved surfaces”, principal supervisor, in progress, Expected Completion Date: May 2017.
- 2012-16 Vahid Hadavi, Department of Mechanical and Industrial Engineering, Ryerson University, “Experimental Analysis and Numerical Modeling of Particle Embedment and Fracture in the Solid Particle Erosion of Ductile Materials”, sole supervisor, completed.
- 2012-16 Mohammad Reza Sookhklari, **2015 Ontario Graduate Scholarship (OGS) Winner**, Department of Mechanical and Industrial Engineering, Ryerson University, “Inverse methods for sculpting abrasive jet machined surfaces”, sole supervisor, completed.
- 2011-15 Naser Haghbin, Department of Mechanical and Industrial Engineering, Ryerson University, “Micro-channel milling using abrasive waterjets and high pressure abrasive slurry jets”, principal supervisor, completed.
- 2010-15 Hooman Nouraei, Department of Mechanical and Industrial Engineering, University of Toronto, “The development of surface profile models in abrasive slurry jet micro-machining of brittle and ductile materials,” co-supervisor, completed.
- 2008-13 Alireza Seifzadeh, **Queen Elizabeth Scholarship Winner**, PhD, Department of Mechanical and Industrial Engineering, Ryerson University, “Finite element modeling of articular cartilage,” principal supervisor, completed.
- 2009-13 Reza Jaffar, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “Roughness modeling in abrasive jet micro-machining of brittle materials,” co-supervisor, completed.
- 2008-12 Getu Hailu, **Vanier Canada Graduate Scholarship Winner**, PhD, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive Jet Micromachining of Polymeric Materials,” principal supervisor, completed. Has also won an **NSERC Industrial PDF** award. **Hailu is now an Assistant Professor at the University**

of Alaska.

- 2007-12 Mahdi Takafolli, **OGS Scholarship Winner, NSERC PDF AWARD**, PhD, Department of Mechanical and Industrial Engineering, Ryerson University, “Numerical modeling of single and multiple impacts of angular particles on ductile metals”, sole supervisor, completed. After spending time in industry, **Takafolli is now completing a postdoctoral fellowship at MIT.**
- 2008-11 Tom Burzynski, **NSERC PGS D Postgraduate Scholarship Recipient**, PhD, Department of Mechanical and Industrial Engineering, Ryerson University, “Modeling surface evolution in abrasive jet micromachining using level set methods,” sole supervisor, completed.
- 2006-10 Amir Ameli, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “Hygrothermal degradation of toughened adhesive joints: the characterization and prediction of fracture properties,” co-supervisor, completed. Has won a **MITACS Elevate PDF Fellowship Award and NSERC PDF Award. Ameli is now an Assistant Professor at Washington State University.**
- 2006-10 Naresh Datla, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “Fatigue behavior in hygrothermally degraded toughened epoxy adhesives,” co-supervisor, completed. **Datla is now an Assistant Professor at the Indian Institute of Technology Delhi**
- 2005-09 Shahrohk Azari, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “Near threshold fatigue of adhesive joints: Effect of mode ratio, bond strength, and bondline thickness,” co-supervisor, completed. Has won an **NSERC PDF** award.
- 2004-08 Amin Ghoheity, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “The development of surface profile models in abrasive jet micro-machining,” co-supervisor, completed. Has won an **NSERC Postdoctoral Fellow award. After completing a postdoctoral fellowship at MIT, Ghoheity is now an Assistant Professor at Sheridan College in Toronto.**
- 2003-08 David Ciampini, PhD, Department of Mechanical and Industrial Engineering, University of Toronto, “Impact velocity, almen strip curvature, and residual stress in vibratory finishing”, co-supervisor, completed. Has won **Ryerson Post Doctoral Fellowship Award.**

Supervision of MASc/MEng Students:

- 2016-pres Aria Ghasavi, MASc, Department of Mechanical and Industrial Engineering, Ryerson University, “Inverse modeling of high aspect ratio abrasive jet micro-machined features” sole supervisor, in progress. Expected Completion Date, Sept 2018.
- 2015-pres Michael Teti, MASc, Department of Mechanical and Industrial Engineering, University of Toronto, “Slurry jet micro-machining of ductile targets,” co-supervisor, in progress. Expected Completion Date, Sept 2017.
- 2015-pres Ernst van Wijk, MASc, Department of Mechanical and Industrial Engineering, University of Toronto, “Nozzle design for reduced instabilities in abrasive slurry jet micro-machining applications utilizing polymer additives,” co-supervisor, in progress. Expected Completion Date, Sept 2017.
- 2014-pres Farbod Razavi, MASc, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet micro-machining of 3D components”, co-supervisor, in progress. Expected Completion Date, Dec 2016.
- 2015-16 Arjun Bajju, MEng, Department of Mechanical and Industrial Engineering, University of Toronto, “Focusing of abrasive air jets,” co-supervisor, completed.
- 2013-14 Neda Tamannaee, MASc, Department of Mechanical and Industrial Engineering, University of Toronto, “Abrasive slurry jet micro-machining of edges, planar and transitional slopes in a talc-filled copolymer”, co-supervisor, completed.
- 2012-13 Mehdi Far, MEng, Department of Mechanical and Industrial Engineering, University of Toronto, “Computational fluid dynamics modeling of abrasive slurry jets”, co-supervisor, completed.
- 2011-13 Kavin Kowsari, MASc, Department of Mechanical and Industrial Engineering, University of Toronto, “The effects of dilute polymer solutions on the shape, size, and roughness of abrasive slurry jet micromachined channels and holes in brittle and ductile materials,” co-supervisor, completed.
- 2011-13 Jeff Schwartzenuber, MASc, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive waterjet

- micromachining of holes in borosilicate glass”, sole supervisor, completed.
- 2010-12 Tristan Radzikowski, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Transdermal powder injection: penetration of angular particles into the dermis,” withdrew due to personal reasons.
- 2009-12 Greg Jhin, MASC, Department of Mechanical and Industrial Engineering, University of Toronto, “Crack growth rate and crackpath in adhesively bonded joints: Comparison of creep, fatigue and fracture, co-supervisor, completed.
- 2010-12 Abul Hasem, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “The effect of tangential velocity component in abrasive jet micromachining of borosilicate glass,” sole supervisor, completed.
- 2009-11 Aaron Gradeen, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Cryogenic abrasive jet machining of polydimethylsiloxane and polytetrafluoroethylene at different temperatures,” principal supervisor, completed.
- 2010-11 Andrew Wodoslawsky, MEng, Department of Mechanical & Industrial Engineering, University of Toronto, “Focusing of maskless abrasive jets”, co-supervisor, completed.
- 2010-11 Sayeed Ally, MASC, **NSERC CGS M Postgraduate Scholarship Recipient**, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet micromachining of metals,,” principal supervisor, completed.
- 2009-11 Damon Dehnadfar, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Laser shadowgraphy measurement of abrasive particle mass, size and velocity distributions through micromasks used in abrasive jet micro-machining,” principal supervisor, completed.
- 2008-10 Ehsan Akbarzadeh, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Solid particle erosion of materials for use in gas pipeline control valves,” principal supervisor, completed.
- 2008-10 Mohsen Hedayati-Dezfooli, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “CFD analysis of black powder flow in gas pipelines,” co-supervisor, completed.

- 2007-09 Rachel Guha, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Ballistic impact of single particles into gelatin: experiments and modeling with application to transdermal pharmaceutical delivery”, sole supervisor, completed.
- 2006-08 Adedamola Oladeinde, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet technology for dental and orthopaedic applications,” principal supervisor. Withdrew due to personal problems.
- 2005-07 Tom Burzynski, MASC, **NSERC CGS M Postgraduate Scholarship Recipient**, Department of Mechanical and Industrial Engineering, Ryerson University, “Analytical modeling of particle interference in micro-abrasive jets”, sole supervisor, completed.
- 2005-07 Getu Hailu, MASC, **OGS Scholarship Recipient**, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet micro-machining of polymethyl methacrylate,” co-supervisor, completed.
- 2005-07 Ardian Dudi, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Design of a prototype bioresorbable tibial implant in a sheep model”, principal supervisor, completed.
- 2005-07 Nastaran Shafiei, MASC, Department of Electrical Engineering, Ryerson University, “Computer simulation of developing erosion profiles including interference effects,” co-supervisor, completed.
- 2004-07 Tom Krajac, MASC, **NSERC CGS M Postgraduate Scholarship Recipient**, Department of Mechanical and Industrial Engineering, Ryerson University, “Abrasive jet micro-machining using round nozzles”, co-supervisor, withdrew due to personal problems.
- 2004-06 Sherri Towfighian, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Finite element modeling of low speed reaming in the application of femoral canal preparation for intramedullary nailing,” co-supervisor, completed.
- 2004-06 Azar Hojabr, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Experimental characterization of the pressure buildup in the intramedullary canal during orthopaedic reaming using a synthetic bone analogue”, principal supervisor, completed.
- 2004-06 Jon Bahen, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Numerical modelling of

intramedullary pressure in orthopaedic procedures”, co-supervisor, completed.

- 2003-05 Daniel Dobrjanski, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Experimental parametric study of the factors leading to elevated femoral intramedullar pressure and fat embolus syndrome in orthopaedic procedures”, principal supervisor, completed.
- 2003-05 Omar Gaber, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “Computational fluid dynamics of the flow of fat emboli in bone due to insertion of an intramedullary device”, co-supervisor, completed.
- 2003-05 Paul Saadetian, MASC, Department of Mechanical and Industrial Engineering, Ryerson University, “A finite element approach to predicting intramedullary pressure during the insertion of prosthetic implants”, co-supervisor, completed.
- 2002-04 Sandeep Dhar, MASC, Department of Mechanical, Aerospace, and Industrial Engineering, Ryerson University, “Rigid plastic impact of single angular particles”, sole supervisor, completed.
- 2000-02 Gee Cheung, **NSERC PGS M Postgraduate Scholarship Recipient**, MASC, Department of Mechanical & Industrial Engineering, University of Toronto, “Finite element analysis of an implanted femoral retrograde intramedullary nail”, principal supervisor, completed.
- 2000-02 David Ciampini, MASC, Department of Mechanical & Industrial Engineering, University of Toronto, “Computer simulation of interference effects in particle streams”, principal supervisor, completed.

Other Supervision of Masters equivalent students

- 2014-15 Carlos Moreno, Department of Mechanical and Industrial Engineering, Ryerson University “Smoothed particle hydrodynamics modelling of abrasive particle fracture”, sole supervisor, completed. This was a visiting student from King Juan Carlos University in Madrid, Spain.

Supervision of Undergraduate Research Assistants

- 2016-pres Seyedeh Mozafary, Ryerson University
- 2015-16 Aria Ghazavi, Ryerson University

2014-pres Ariana Khakpour, Ryerson University
2014-15 Bjorn Michelson, Ryerson University
2014-15 Joseph Tablante, Ryerson University
2014-15 Michael Teti, Ryerson University
2013 Carlo Giancola, Ryerson University
2013 Mario Miranda, Ryerson University
2012-14 Farbod Razavi, Ryerson University
2012 Jesus Lugo Calles, Mexican exchange student
2011 Jamie Fine, Ryerson University
2011 Shiksa Rai, University of Toronto
2009-10 Hamid Ebrahimi, Ryerson University
2010 Sayeed Ally, Ryerson University
2010 Levon Larson, Ryerson University
2010 Guangwei Yu, University of Toronto
2009 Daniel Ogbuigwe, Ryerson University
2009 Valay Shah, Ryerson University
2009 Abul Hasem, Ryerson University
2008 Vitaliy Ivantsiv, Ryerson University
2008 Nik Trutiak, Ryerson University
2008 Andrew Covato, University of Toronto
2007 Hooman Nouri, Ryerson University
2006 Hamed Farahani-Jokar, Ryerson University, **NSERC Undergraduate Student Research Award Winner**

- 2005 Manjinder Singh, Ryerson University, **NSERC Undergraduate Student Research Award Winner**
- 2005 Lindsay Burke, Ryerson University
- 2004 Shaun Rose, Ryerson University
- 2004 Tom Burzynski, Ryerson University, **NSERC Undergraduate Student Research Award Winner**
- 2004 David Cosoleto, Ryerson University, French Exchange Research Intern
- 2003 Carlos Gomes-Ferreira, Ryerson University, **NSERC Undergraduate Student Research Award Winner**
- 2001-03 Bradley Kyte, Ryerson University
- 2003 Tom Krajac, Ryerson University, **NSERC Undergraduate Student Research Award Winner**

Graduate Student Examinations and Membership on Advisory Committees

Examining Member of PhD Candidacy/Final Exam Committee for Students Supervised by Others

Internal

- 2016 Ayman Bayomy, Dept. Mechanical and Industrial Engineering, Ryerson University, (Final Dissertation in Sept. 2016)
- 2016 Vaskar Gnyawali, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying exam in May 2016)
- 2014-16 Alpesh Macwan, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying exam in 2014, then Final Dissertation, June, 2016)
- 2016 Chao Fan, Dept. Mechanical and Industrial Engineering, Ryerson University (Final Dissertation, Feb. 2016)
- 2015 Saiad Samizadeh, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying Exam)
- 2015-pres Adel Alhalawani, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying exam)
- 2014 Muhammad Farhat Kaleem , Dept. Electrical Engineering, Ryerson

University (Chair of final defense)

- 2013 Alireza Samiezadeh, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying Exam).
- 2013 Sugrib Kumar Shaha, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying Exam).
- 2013 Gholamreza Ahmadzadehrishehri, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying exam).
- 2012 Dyuti Sarker, Dept. Mechanical and Industrial Engineering, Ryerson University. (Qualifying Exam)
- 2010-13 Mohammed-Amin Alubaidy, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2008-11 Alireza Shirazi, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying Exam and Final Dissertation).
- 2008-10 Tawfiq Jaber, Dept. Mechanical and Industrial Engineering, Ryerson University (Qualifying Exam and Final Dissertation).
- 2007-10 Omar Falou, Dept. Electrical Engineering, Ryerson University (Qualifying Exam and Final Dissertation)..

External

- 2015 External Examiner, PhD thesis, Hadi Noori, PhD Thesis, Dept. Mechanical Engineering, McMaster University
- 2014 External Examiner, Nasim Paryab, PhD Thesis, Dept. Mechanical and Mechatronics Engineering, University of Waterloo
- 2014 External Examiner, PhD Thesis, Reinoldo Chung, Dept. Chemical and Materials Engineering, University of Alberta.
- 2008 External Examining Member, PhD Thesis, Craig Tschirhart, Dept. Biological Engineering, University of Guelph.

Examining Member of Masters Final Oral Exam Committee

- 2015 Basel Khader, Mechanical and Industrial Engineering, Ryerson University

- 2014 Peter Goshlak, MHSc Clinical Engineering candidate, University of Toronto
- 2011 Randall Heydon, Mechanical and Industrial Engineering, Ryerson University.
- 2011 Suraj Shah, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2009 Wen Li, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2008 Balagi Venkatesh, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2006 Dennis Rosero, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2006 Omar Falou, MAsc, Dept. Electrical Engineering, Ryerson University.
- 2004 Muhammed Arshad, Dept. Mechanical and Industrial Engineering, Ryerson University.
- 2004 Theo Makyris, Dept. Mechanical, Aerospace and Industrial Engineering, Ryerson University.
- 2003 Marc Alexander, Dept. Mechanical, Aerospace and Industrial Engineering, Ryerson University.
- 2003 Muhammad Adrees, Dept. Mechanical, Aerospace and Industrial Engineering, Ryerson University.
- 2003 Stella Wang, Dept. Mechanical, Aerospace and Industrial Engineering, Ryerson University.

Member of Supervisory Committee:

- 2013-14 External member of supervising committee, Peter Goshlak, MHSc Clinical Engineering candidate, University of Toronto
- 2008-10 Supervisory Committee: Devesh Bekah, MSc, Dept. of Medical Physics, Ryerson University.
- 2007-09 Supervisory Committee: Ahmed El Kaffas, MSc, Dept. of Medical Physics, Ryerson University.

2006-11 Supervisory Committee, Omar Falou, PhD, Dept. Electrical Engineering, Ryerson University.

g) COURSES TAUGHT:

Graduate Courses at Ryerson University

2005-06: ME 8117 Fracture Mechanics

2001-02: ME 8117 Fracture Mechanics

2001-14 ME 8135 Directed Studies: (all my graduate students)

EE 8601 Directed Studies: (one graduate student)

Undergraduate Courses at Ryerson University

2016-17 MEC 323/BME 323 Statics and Mechanics of Materials

2016-17 MEC 430 Stress Analysis

2014-15 MEC 323/BME 323 Statics and Mechanics of Materials

2014-15 MEC 430 Stress Analysis

2013-14 MEC 323/BME 323 Statics and Mechanics of Materials

2013-14 MEC 430 Stress Analysis

2012-13 MEC 323/BME 323 Statics and Mechanics of Materials

2012-13 MEC 430 Stress Analysis

2011-12 MEC 323/BME 323 Statics and Mechanics of Materials

2011-12 MEC 430 Stress Analysis

2010-11 MEC 323/BME 323 Statics and Mechanics of Materials

2009-10 MEC 323/BME 323 Statics and Mechanics of Materials

2008-09 MEC 430 Stress Analysis

2007-08 MEC 430 Stress Analysis

2005-06 MEC 324 Applied Mechanics for Industrial Engineers

2005-06 MEC 430 Stress Analysis

2004-05 MEC 323 Statics and Mechanics of Materials

2004-05 MEC 430 Stress Analysis

2004-05 IND 042/MEC 042 Industrial/Mechanical Design Project (Course coordinator)

2003-04 MEC 323 Statics and Mechanics of Materials

2003-04 MEC 430 Stress Analysis

2003-04 IND 042/MEC 042 Industrial/Mechanical Design Thesis (Course coordinator)

2002-03 MEC 323 Statics and Mechanics of Materials

2002-03 MEC 430 Stress Analysis

2001-02 MEC 323 Statics and Mechanics of Materials

2001-02 MEC 430 Stress Analysis

2000-01 MEC 323 Statics and Mechanics of Materials
 2000-01 MEC 430 Stress Analysis
 1999-00 MEC 321 Mechanics of Materials
 1999-00 MTL 700 Materials Selection

h) RESEARCH FUNDING HELD:

Externally Funded:

Years	Source	Title	Avg. Per Year (\$)	PI
2016	NSERC ENGAGE	Solid particle erosion mechanisms in ceramic and polymer filled epoxy coatings for flue gas ducting and cyclone applications	25,000	M. Papini
2016	NSERC/CIHR Collaborative Health Research Grant (CHRP)	Synthesis of Bioactive Augments for Use in Revision Knee Joint Replacement	201,000	M. Towler, E. Schemetish (I am co-applicant)
2014	CANMET	Investigation of the Erosion Resistance of Coatings Produced at CanmetENERGY	22,000	M. Papini
2014	NSERC/CIHR Collaborative Health Research Grant (CHRP)	Transformative bioglass coatings for surgical applications	161,978	M. Towler, E. Schmetisch (I am collaborator)
2014-2019	NSERC Discovery Grant	Models to determine the process parameters required to sculpt desired micro-feature topographies on flat and curved surfaces using abrasive jet technology	58,000 (highest NSERC Discovery Grant at Ryerson)	M. Papini
2013-14	NSERC Research Tools and Instruments	Electron Backscatter: A powerful technique for materials characterization	108,705	D. Chen
2012-	NSERC Research	Tribometer for	54,046	J.K. Spelt

13	Tools and Instruments	Friction and Wear		
2012-17	Canada Research Chairs- Tier II	CRC in Abrasive Jet Technology (renewal)	100,000	M. Papini
2012-15	NSERC – Strategic Projects	Modeling of Abrasive Water Jet and Slurry Jet Micro-machining	63000	M. Papini
2010	NSERC Research Tools and Instruments	Abrasive Waterjet Micromachining Equipment	94,492	M. Papini
2009-10	Ontario Centres of Excellence Collaborative Research	Adhesive Joint Design for Fatigue Loading	48,000 *Awarded, then withdrawn due to lack of funds at OCE.	J.K. Spelt
2009-11	NSERC – Discovery Accelerator Supplements	Abrasive Jet Micromachining: The Effect of Particle Size and Shape, and the Machining of Three Dimensional Suspended Components	40,000	M. Papini
2009-14	NSERC – Discovery Grants	Abrasive Jet Micromachining: The Effect of Particle Size and Shape, and the Machining of Three Dimensional Suspended Components	35,701	M. Papini
2008-10	NSERC – Strategic Projects	Abrasive Jet Micromachining of Novel Features in Polymers and Glass	68,138	M. Papini
2008-09	Saudi Aramco Inc.	Confidential by Contract.	Confidential by contract. Amount is quite significant.	M. Papini
2007-11	Canada Research Chairs- Tier II	CRC in Abrasive Jet Technology	100,000	M. Papini
2007	Ontario Ministry of Research and Innovation –	Abrasive Jet Technology and Particle Impact	334,626	M. Papini

	Ontario Research Fund/ CFI – Leaders Opportunity Fund	Infrastructure		
2007-11	CIHR – Regenerative Medicine Team Grant	Repair of Early Joint Damage - A Tissue Engineering Approach	Total Team Approx. 350,000/yr (approx. 10% to Dr. Papini)	R. Kandel
2006	NSERC Research Tools and Instruments	A portable stylus profilometer for contour and roughness measurement	23,713	M. Papini
2005	NSERC Research Tools and Instruments	A scanning electron microscope-A Ryerson Institutional Facility	150,000	D. Chen
2005	MMO – Interact Grant	Effect of Air Abrasion Media and Size on the Erosion Rate on Dental Surfaces	15,000	M. Papini
2004-09	NSERC – Discovery Grants	Effect of Process Parameters on the Development of Erosion Profiles: Experiments and Analysis	25,370	M. Papini
2005	Mt. Sinai-Subgrant from R. Kandel	CPP Tissue Scaffold Implant Design	17,000	R. Kandel
2004-06	NSERC-Strategic Projects	Abrasive Jet Machining of Microstructures	Total Approx. 60,000/yr (approx. 50% to Dr. Papini)	J.K. Spelt and M. Papini
2003-06	NSERC/CIHR Collaborative Health Research Projects	Factors Affecting the Development of Fat Embolus Syndrome after Insertion of an Intramedullary Device	Total Approx. 77,500/yr (approx 33% to Dr. Papini)	Z. Saghir
2003	NSERC Research Tools and Instruments	Erosion testing apparatus	10,248	M. Papini
2000-04	NSERC-Operating Grants	Erosion due to angular particle impact at high speed	17,510	M. Papini
2000-	MMO- New	Intramedullary Nails	15,000	M. Papini

02	Faculty Grant	in the Treatment of Supracondylar Fractures of the Femur in Osteoporotic Bone		
2000	NSERC – Equipment Grant	A high speed digital camera for impact induced erosion studies	30,140	M. Papini

Internally Funded:

Years	Source	Title	Avg. Per Year	PI
2014	Ryerson University Deans Research Fund - Tools	Experimental tools for microfluidic particle synthesis and characterization	15000	S. Tsai
2008-9	Ryerson University Interdisciplinary Fund	Haptic Assist for Computer-Aided Orthopedic Surgery (HACAOS)	10,000	F. Sharifi
2009-10	Ryerson University Interdisciplinary Fund	A Novel Biomimetic Intramedullary Nailing Implant for the Treatment of Bone Fracture	10,000	H. Bougherara
2008-09	Ryerson University Interdisciplinary Fund	Parametric Studies of Needle Free Transdermal Drug Injection Systems	10,000	M. Papini
2007	NSERC Research Tools and Instruments. Ryerson Internal Competition	MeX Software for 3D Surface Measurements in SEM	14,812	D. Chen
2005-07	Ryerson University – Research Award	Abrasive Jet Technology for Dental and Orthopaedic Applications	10,000	M. Papini
2005	University of Toronto – Zimmer Grant	The Effect of Acetabular Defect Size and Location on the Stresses at the Bone – Implant interface	10,000	D. Backstein
2001-13	Ryerson University/ Ontario Gov't –	Various	Approx 10,000	M. Papini

	Ryerson Research Assistant Program			
2002	CIHR/ Ryerson University – Ryerson CIHR Internal Development Grant	Biomechanics of Orthopaedic Implants	15,000	M. Papini

i) **PUBLICATIONS:**

Summary:

Papers published/accepted in refereed journals: 131
 Full papers in refereed conference proceedings: 16
 Abstracts in conference proceedings: 43
 Chapters in books: 5
 Posters: 23
 Technical reports for industrial R&D projects: 25

NOTE: Names of highly qualified personnel (HQP) supervised by Dr. Papini appear in bold print.

Papers accepted or published in refereed journals:

- [1] **K. Kowsari, A. Nouhi, V. Hadavi, J.K. Spelt, and M. Papini**, Prediction of the erosive footprint in the abrasive jet micro-machining of flat and curved glass, *Tribology international*, accepted Oct. 2016.
- [2] **Y. Li, W. Stone, E. H. Schemitsch, P. Zalzal, M. Papini, S. D. Waldman, and M. R. Towler**, Antibacterial and osteo-stimulatory effects of a borate-based glass series doped with strontium ions, *Journal of biomaterials applications* 31 (5), (2016), 674-683.
- [3] **K. Kowsari, MH Amini M. Papini, and JK Spelt**, The effects of fluid vapor pressure and viscosity on the shapes of abrasive slurry-jet micro-machined holes and channels, *International journal of machine tools and manufacture* 110 (2016), 80-91.
- [4] **R. Jafar, V. Hadavi, J.K. Spelt, and M. Papini**, Dust Reduction in Abrasive Jet Micro-machining Using Liquid Films, *Powder technology* 301, (2016),1270-1274.
- [5] **H. Nouraei, K. Kowsari, B. Samareh, J.K. Spelt, and M. Papini**, Calibrated CFD erosion modeling of abrasive slurry jet micro-machining of channels in ductile materials, *Journal of manufacturing processes*, 23, (2016), 90–101.

- [6] **V. Hadavi, C.E. Moreno,** and M. Papini, Numerical and experimental analysis of particle fracture during solid particle erosion, Part I: Modeling and experimental verification, *Wear*, 356–357, (2016), 135–145.
- [7] **V. Hadavi, C.E. Moreno,** and M. Papini, Numerical and experimental analysis of particle fracture during solid particle erosion, Part II: Effect of incident angle, velocity and abrasive size, *Wear*, 356–357, (2016), 146–157.
- [8] **A. Nouhi, K. Kowsari,** J.K. Spelt, M. Papini, Abrasive jet machining of channels on highly-curved glass and PMMA surfaces, *Wear*, 356–357, (2016), 30–39.
- [9] **M.R. Sookhak Lari,** M. Papini, Inverse methods to gradient etch three-dimensional features with prescribed topographies using abrasive jet micro-machining: Part I – Modelling, *Precision engineering*, 45, (2016), 272–284.
- [10] **M.R. Sookhak Lari, M. Teti,** M. Papini, Inverse methods to gradient etch three-dimensional features with prescribed topographies using abrasive jet micro-machining: Part II – Verification with micro-machining experiments, *Precision engineering*, 45, (2016), 262–271.
- [11] **A. Matinmanesh, O. Rodriguez,** M.R. Towler, P. Zalzal, E.H. Schemitsch, M. Papini, Quantitative evaluation of the adhesion of bioactive glasses onto Ti6Al4V substrates, *Materials and design* 97 (2016) 213–221.
- [12] **K. Kowsari, H. Nouraei,** B. Samareh, M. Papini, J.K. Spelt, CFD-aided prediction of the shape of abrasive slurry jet micro-machined channels in sintered ceramics, *Ceramics international*, 42 (6), (2016), 7030–7042.
- [13] **K. Kowsari, M.R. Sookhaklari, H. Nouraei,** M. Papini, J.K. Spelt, Hybrid erosive jet micro-milling of sintered ceramic wafers with and without copper-filled through-holes, *Journal of materials processing technology*, 230, (2016), 198–210.
- [14] **N. Haghbin, F. Ahmadzadeh,** J.K. Spelt, M. Papini, Effect of entrained air in abrasive water jet micro-machining: Reduction of channel width and waviness using slurry entrainment, *Wear*, 344–345, (2015), 99–109.
- [15] **H. Nouraei, K. Kowsari,** M. Papini, J.K. Spelt, Operating parameters to minimize feature size in abrasive slurry jet micro-machining, *Precision engineering* 44, (2016), 109–123.
- [16] **O. Rodriguez,** D. J. Curran, M. Papini, L. M. Placek, A. W. Wren, E. H. Schemitsch, P. Zalzal, M. R. Towler, Characterization of Silica-based and Borate-based, Titanium-containing Bioactive Glasses for Coating Metallic Implants, *Journal of non-crystalline solids*, 433, (2016), 95–102.

- [17] **V. Hadavi** and M. Papini, Numerical modeling of particle embedment during solid particle erosion of ductile materials, *Wear*, 342–343, (2015), 310–321.
- [18] **N. Tamannaee**, JK Spelt, and M. Papini, Abrasive slurry jet micro-machining of edges, planar areas and transitional slopes in a talc-filled co-polymer, *Precision engineering*, 43, (2016), 52-62.
- [19] **N. Haghbin**, **F. Ahmadzadeh**, J.K. Spelt, and M. Papini, High pressure abrasive slurry jet micro-machining using slurry entrainment, *International journal of advanced manufacturing technology*, 84, (2016), 1031.
- [20] **V Hadavi**, **B Michaelsen**, and M. Papini, Measurements and modeling of instantaneous particle orientation within abrasive air jets and implications for particle embedding, *Wear*, 336–337, (2015), 9–20.
- [21] **A. Nouhi**, **M.R. Sookhak Lari**, J.K. Spelt, and M. Papini, Implementation of a shadow mask for direct writing in abrasive jet micro-machining, *Journal of materials processing technology*, 223 (2015), Pages 232-239.
- [22] **N. Haghbin**, J.K. Spelt and M. Papini, Abrasive waterjet micro-machining of channels in metals: Model to predict high aspect-ratio channel profiles for submerged and unsubmerged machining, *Journal of materials processing technology*, 222 (2015), 399–409.
- [23] **J. Schwartzentruber** and M. Papini, Abrasive Waterjet Micro-Piercing of Borosilicate Glass, *Journal of materials processing technology*, 219 (2015), 143–154.
- [24] Z. Liu, **H. Nouraei**, J. K. Spelt, M. Papini, Electrochemical slurry jet micro-machining of tungsten carbide with a sodium chloride solution, *Precision Engineering*, 40 (2015), 189–198.
- [25] **N. Haghbin**, J.K. Spelt, M. Papini, Abrasive waterjet micro-machining of channels in metals: Comparison between machining in air and submerged in water, *International journal of machine tools and manufacture*, 88, (2015), 108–117.
- [26] **R. Jafar**, M. Papini and J.K. Spelt, Erosion modeling in abrasive slurry jet micro-machining of brittle materials, *Journal of manufacturing processes* 17 (2015), 127–140.
- [27] **R. Jafar**, J.K. Spelt, M. Papini, Surface finishing of micro-channels using low kinetic energy abrasives, *International journal of mechanical engineering and mechatronics* 2, (2014), 43-50.

- [28] **A. G. Gradeen**, M. Papini, J.K. Spelt, The effect of temperature on the cryogenic abrasive jet micro-machining of polytetrafluoroethylene, high carbon steel and polydimethylsiloxane, *Wear* 317 (1–2), (2014), 170–178.
- [29] **K. Kowsari, H. Nouraei**, D.F. James, J.K. Spelt, and M. Papini, Abrasive Slurry Jet Micro-machining of Holes in Brittle and Ductile Materials. *Journal of Materials Processing Technology* 214 (9), (2014), 1909–1920.
- [30] Z. Liu, **H. Nouraei**, M. Papini, J.K. Spelt, Abrasive Enhanced Electrochemical Slurry Jet Micro-machining: Comparative Experiments and Synergistic Effects, *Journal of Materials Processing Technology* 214 (9), (2014), 1886–1894.
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- [33] **S. Azari**, M. Papini, and J.K. Spelt, Fatigue threshold and crack growth rate of adhesively bonded joints as a function of load/displacement ratio, *Composites Part A* 57, (2014), 59–66.
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- [38] **R. Jafar**, J.K. Spelt, and M. Papini, Numerical simulation of surface roughness and erosion rate of abrasive jet micro-machined channels, *Wear* 303 (1–2), (2013), 302–312.

- [39] **A. Ameli, S. Azari, M. Papini, and J.K. Spelt**, Characterization and prediction of fracture properties in hygrothermally degraded adhesive joints: An open-faced approach, *Journal of Adhesion Science and Technology*, 27 (10), (2013), 1080-1103.
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- [41] **S. Ally, J.K. Spelt, and M. Papini**, Prediction of machined surface evolution in the abrasive jet micro-machining of metals, *Wear*, 292-293, (2012), 89-99.
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- [44] **H. Getu, J.K. Spelt, and M. Papini**, Conditions leading to the embedding of angular and spherical particles during the solid particle erosion of polymers, *Wear*, 292-293, (2012), 159-168.
- [45] **E. Akbarzadeh, E. Elsaadawy, A.M. Sherik, J.K. Spelt and M. Papini**, The solid particle erosion of 12 metals using magnetite erodent, *Wear*, 282-283 (2012), 40-51.
- [46] **A. Seifzadeh, D.C.D. Oguamanam, and M. Papini**, Evaluation of the constitutive properties of native, tissue engineered, and degenerated articular cartilage, *Clinical Biomechanics*, 27 (8), (2012), 852-859.
- [47] **T. Burzynski and M. Papini**, A level set methodology for predicting the effect of mask wear on surface evolution of features in abrasive jet micro-machining, *Journal of Micromechanics and Microengineering*, 22 (7), (2012), 075001 (22pp).
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- [49] **T. Burzynski and M. Papini**, Modelling of surface evolution in abrasive jet micro-machining including particle second strikes: A level set methodology, *Journal of Materials Processing Technology*, 212 (5), (2012), 1177-1190.
- [50] **A. Ghoheity, H.J. Crabtree, M. Papini, and J.K. Spelt**, Characterisation and comparison of microfluidic chips formed using abrasive jet micromachining and wet etching, *Journal of Micromechanics and Microengineering*, 22 (2), (2012), 025014 (10 pp).

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- [52] **A. Ameli, N.V. Datla, S. Azari**, M. Papini, and J.K. Spelt, Prediction of environmental degradation of closed adhesive joints using data from open-faced specimens, *Composite Structures*, 94(2), (2012), 779–86.
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- [8] **R. Jafar, J.K. Spelt, and M. Papini**, Erosive Smoothing in Abrasive Jet Micromachining of Glass, International Conference on Mechanical Engineering and Mechatronics, August 2013, Toronto, On. **Best Paper award winner- also invited for publication in *International journal of mechanical engineering and mechatronics*.**
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- [1] **A. Ameli, N.V. Datla, S. Azari**, M. Papini and J.K. Spelt, Durability testing using open-faced specimens, in *Best practices in preparing and testing adhesive joints*, LFM da Silva, D Dillard, B Blackman, R D Adams (Editors), Wiley, Weinheim, (in print) 2011.
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[2] **MR Sookhak Lari**, M. Papini Controlling the shape of micro-channels by oscillation using abrasive jet micro-machining, 20th International Conference on Wear of Materials, Toronto, Canada, 12-16 April 2015.

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