

UNIVERSITY OF PRETORIA
FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

1. BIOGRAPHICAL SKETCH

1.1 GENERAL INFORMATION

Surname	Huysen			Maiden name	Barbieri					
First names	Barbara			ID Number						
Citizenship	Italian			Title	Mrs.	Female	<input checked="" type="checkbox"/>	Male	<input type="checkbox"/>	
Place of birth	Italy			Date of birth	4/2/1971					
Population group	African	<input type="checkbox"/>	Coloured	<input type="checkbox"/>	Indian	<input type="checkbox"/>	White	<input checked="" type="checkbox"/>	Other (Please specify)	<input type="checkbox"/>
Marital status	Married			Direct Telefax No.						
Direct Telephone	(+27-12) 420 6316			E-mail	barbara.huysen@up.ac.za					

1.2 LANGUAGE PROFICIENCY

List the languages that you understand and indicate level of proficiency (read, write, speak)

- Italian (mother tongue): read, write, and speak
- English: read, write, and speak

1.3 HIGHEST SCHOOL QUALIFICATION

INSTITUTION	SUBJECTS	DISTINCTIONS
Liceo Scientifico High School	English Italian Mathematics Physics Natural Science History Philosophy Latin Design	X

1.4 ACADEMIC QUALIFICATIONS OBTAINED					
Degree/ Diploma	Field of study	Higher education institution	Period	Year of graduation	Distinctions
M.Sc.	Aerospace Engineering	University of Pisa	1990-1999	1999	

Please attach academic records – highest qualification

1.5 ACADEMIC QUALIFICATIONS ENROLLED					
Degree/ Diploma	Field of study	Higher education institution	Period		
PhD	Mechanical and Aeronautical Engineering	University of Pretoria	Dissertation under review		

1.6 WORK EXPERIENCE TO DATE		
Name of employer	Capacity and/or type of work	Period
Diomedes Innovations	<u>Researcher</u> Analysis in aerodynamics	2000-2007
Mr G.Bruni Scuola italiana	<u>Teacher</u> Italian	2006-2009
University of Pretoria	<u>Lecturer</u> Thermoflow (MTV 732) Aerodynamics (Postgraduate) Aeronautics (4 rd year) Thermodynamics (2 nd year)	2010-current 2010-2011 2010-2015 2011-current 2016-current

2. TEACHING AND LECTURING DUTIES

2.1 Courses/modules presented: UNDERGRADUATE					
Course	Level (second year, etc.)	Academic Institution	Degree/ Diploma	Compilation of study guides (Yes or No)	Curriculum design (Yes or No)
Aeronautics (MLV 420)	4 th	UP	Degree	Yes	Yes
Thermodynamics (MTX221)	2 nd	UP	Degree	No	No

2.2 Courses/modules presented: POSTGRADUATE					
Course	Level	Academic Institution	Degree/ Diploma	Compilation of study guides (Yes or No)	Curriculum design (Yes or No)

Propulsion course (MAY780)-Wind turbine	MS	UP	MS	Yes	Yes
Aerodynamics (MLD780)	MS	UP	MS	Yes	Yes
Thermoflow (MTV 732)	MS	UP	MS	Yes	Yes

2.3 Educational courses attended	<ul style="list-style-type: none"> • Educational Induction Programme, Pretoria, 18-22 January, 2010 • ClickUP course, Pretoria, 25-26 January, 2010 • Blackboard ClickUP Training module workshop, Pretoria, 13 September 2011 • Research and Publication skills (Article Writing), 20-21 August, 2012 • Occupational health and safety programme for OHS representatives, Pretoria, 23 August, 2012 • First Aid, Pretoria, May 2016
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3. RESEARCH

RESEARCH FIELD	SPECIALITY
Aerodynamic analysis of spanwise lift distribution	Computational Fluid Dynamics (CFD)
Heat transfer and aerodynamic loss in a linear turbine cascade with endwall contouring	Wind tunnel testing

3.1 RESEARCH DUTIES

3.1.1 Former supervision or co-supervision (completed)			
Name of student	Degree/Title of dissertation/ thesis and date	Supervisor/ Co-supervisor(s)	Duration of studies (years)

3.1.2 Current postgraduate students					
Name of student	Degree enrolled for and date of first registration	Project title	Supervisor	Co-supervisor(s)	Year of registration

3.1.3 Obtaining research funds			
Origin of research funds (e.g. contract research, THRIP, international funding organisations, other(s))	Title of research project or programme	Duration	Money allocated (R)
Denel Aerospace Systems	Hystou Composites Project	2011-2012	R100 000p.a.

3.2 RESEARCH OUTPUT

3.2.1 Publications in refereed accredited journals

3.2.2 Papers *accepted* for publication in refereed accredited journals

3.2.3 Papers *submitted* for publication in refereed accredited journals

Adeola Shote, Barbara Huyssen, Gazi Mahmood, " Heat Transfer and Slot Film-Cooling Effectiveness on Endwall in a Filleted Vane Cascade", ASME J. Heat transfer, HMT-2020-776, 2020

3.2.4 Papers *presented and published* in national conference proceedings

3.2.5 Papers *presented and published* in international conference proceedings

- B.Huyssen, G.I.Mahmood, A.Shote, Flow Fields for upstream cooling configuration in a vane cascade, Hefat 2019, Wicklow, Ireland, 22 - 24 July 2019
- B.B. Huyssen and G.I. Mahmood (2020) "Effects of Cylindrical-Hole Shape and Fillet on Flow and Temperature Fields in Vane Cascade with Endwall Film-Cooling", Proceedings of ASME Turbo Expo 2020 Turbomachinery Technical Conference and Exposition GT2020 June 22-26, 2020, London, England, GT2020-14099

3.2.6 Papers *presented and published* in refereed accredited conference proceedings

3.2.7 Conference papers presented (*but not published*)

- B.Barbieri, A study of longitudinal and lateral stability of a gull-wing configuration, OSTIV, Mafikeng, 13 – 20 December, 2001
- B.Barbieri, University Projects, FLUXION and BALLAST Mini-Conference, Stellenbosch, 15-16 November, 2010
- B.Barbieri, Research from University of Pretoria, FLUXION and BALLAST Mini-Conference, Pretoria, 23 January, 2012
- B.Huyssen, Computational investigation of flow structure in a linear vane blade cascade with filleted endwall, IASSA, Pretoria, 20-21 October 2016
- B.Huyssen, Computational investigation of flow structure in a linear vane blade cascade with filleted endwall ANSYS User Conference, Pretoria, 16 November 2016

3.2.8 Published reports

3.2.9 Technical reports

3.2.10 Books / Textbooks

3.2.11 Chapters in books

3.2.12 Registered patents

3.2.13 Patents – pending

3.2.14 Multimedia material

4 OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

4.1 Participation in conferences, workshops and short courses - specify type of contribution:

4.1.1 National

- Sacam10, Pretoria, 10 - 13 January, 2010
- Training strategies for Aviation Safety in Africa-2010, Pretoria, 27 August, 2010
- CDIO workshop, Pretoria, 8-10 November, 2010
- International Aerospace Symposium of South Africa, Gordon's Bay, 23-25 November, 2010
- ESASTAP, Pretoria, 18 April, 2011
- International Aerospace Symposium of South Africa, Centurion, 26-28 September, 2011
- International Aerospace Symposium of South Africa, Centurion, 9-10 September, 2012
- AVI Afrique, Pretoria, 7 November 2012
- International Aerospace Symposium of South Africa, Somerset West, 2-3 September, 2013
- ANSYS User Conference, Pretoria, 2-5 June 2014
- ZeroPoint CMS Web Training, September 2014
- Wellness "Healthy Living " workshop, 31 October 2014
- Italy-South Africa collaboration in research, Pretoria, 7 December 2016
- Hefat 2019, Wicklow, Ireland, 22 - 24 July 2019

4.1.2 International

4.2 Teamwork and collaboration with others (please specify):

Other researchers (national and international)
Other research institutions (national and international)
Industry

- R J Huysen-Diomedes Innovations
- Glen Snedden-CSIR
- Mauro Morelli-CSIR

4.3 Membership of national and international bodies

List all the scientific associations or societies to which you belong. Name your involvement, e.g. honorary member, founder member, full member, chairperson, president, secretary, and dates of such involvement.

1. Aeronautical Society of South Africa

4.4 Visits to local and overseas universities or research institutes as guest professor or researcher**5. MANAGEMENT AND ADMINISTRATIVE DUTIES (LEADERSHIP)**

List your involvement in departmental activities (e.g. administrative functions), faculty (e.g. faculty committees) or other university activities

Marketing Committee (2013 – 2019) with specific duties of arranging industry visits and staff socials

6. COMMUNITY SERVICE OR PROFESSIONAL SKILLS**6.1 Professional activities**

(List project titles, institutions and communities involved, etc.)

6.2 Professional service performed

(List the courses you presented, lectures at professional associations/clubs, radio or TV appearances, external expert or appointment committee, etc.)

6.3 Professional societies

6.4 Involvement with other universities/scientific institutions

(e.g. external examiner, editor of journal, advisory council, CSIR, SA Council for Scientific Professions)

National

1. Inter-varsity Radio Controlled Flight Competition, Pretoria, 19 November, 2010
2. Technical committee for International Aerospace Symposium of South Africa, Gordon's Bay, 23-25 November, 2010
3. Inter-varsity Radio Controlled Flight Competition, Pretoria, 25 September, 2011
4. Technical committee for International Aerospace Symposium of South Africa, Centurion, 26-28 September, 2011
5. External Examiner for University of Witwatersrand: Master in Engineering, 2012
6. Technical committee for International Aerospace Symposium of South Africa, Centurion, 9-10 September, 2012
7. Inter-varsity Radio Controlled Flight Competition, Pretoria, 27 October, 2012
8. Technical committee for International Aerospace Symposium of South Africa, Somerset West, 2-3 September, 2013
9. Inter-varsity Radio Controlled Flight Competition, Pretoria, 20 October, 2013
10. Inter-varsity Radio Controlled Flight Competition, Pretoria, 18 October, 2014
11. Inter-varsity Radio Controlled Flight Competition, Pretoria, 31 October, 2015
12. Inter-varsity Radio Controlled Flight Competition, Johannesburg, 29 October, 2016
13. Inter-varsity Radio Controlled Flight Competition, Johannesburg, 29 October, 2017
14. Inter-varsity Radio Controlled Flight Competition, Johannesburg, 29 October, 2018
15. Inter-varsity Radio Controlled Flight Competition, Johannesburg, 29 October, 2019

International

- Supervisor of French cadets from Ecole de l'Air, internship, 2012
- Supervisor of French cadets from Ecoles Militaires de Saint -Cyr Coëtquidan, internship, 2013

6.5 Refereeing duties

(e.g. journals, dissertations/theses)

Refereed papers for the following journals

1. Reviewer for Aeronautical Journal, 2012

Appointed as external examiner for the following Masters theses:

1. Reviewer for the master thesis "Technique for simulating ground vehicle aerodynamics", T.J. Stevenson. University of the Witwatersrand, 2012.
2. Reviewer for the master thesis "Inferring the optimum glide slope and trim setting of a parafoil from flight tests and design of experiments", TR. Gomes. University of Cape Town, 2014.

6.6 Evaluation status as scientist

(e.g. NRF; first evaluation and date, subsequent evaluations and dates)

6.7 Professional registration (e.g. Pr Eng)