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Douglas Buchanan

Professor, Electrical and Computer Engineering,
University of Manitoba

Canada | Research

Current University of Manitoba

Previous Innovate Manitoba, University of Manitoba, IBM T.J. Watson Research Center

Education University of Durham

[Connect](#)500+
connections<https://ca.linkedin.com/in/douglas-buchanan-0112658>

Background



Experience

Professor

University of Manitoba

July 2002 – Present (14 years 7 months) | Winnipeg, Canada



Douglas A. Buchanan received his B.Sc. (EE) and M.Sc. degree from the University of Manitoba in 1981 and 1982, respectively and his Ph.D. from the University of Durham in 1986. For 16 years he worked at IBM's T.J. Watson Research Center on thin film transistors and many CMOS transistor generations (0.25um - 65 nm). In 2002, he became a Professor and Canada Research Chair (Microelectronic Materials) in the Department of Electrical and Computer Engineering at the University of Manitoba. Dr. Buchanan has published over 95 peer-reviewed journal publications, presented his work at over 70 conferences and holds 28 US patents.

Vice-President (Commercialization)

Innovate Manitoba

September 2012 – August 2014 (2 years) | Winnipeg, Canada Area



Acting Dean, Faculty of Engineering

University of Manitoba

July 2010 – June 2011 (1 year) | Winnipeg, MB Canada



Associate Dean Graduate Programs, Faculty of Engineering

University of Manitoba

July 2009 – June 2010 (1 year) | Winnipeg, Canada Area



Research Staff Member

IBM T.J. Watson Research Center

August 1986 – June 2002 (15 years 11 months) | Yorktown Heights, NY USA

Silicon Science and Technology (0.25 um - 65 nm)

IBM Thomas J. Watson Research Center



People Also Viewed



Ken Ferens

Assistant Professor at University of Manitoba



Ekram Hossain

Professor at University of Manitoba



Jun Cai

Professor at University of Manitoba



Witold Kinsner

Professor at University of Manitoba



Carl Ho

Assistant Professor at University of Manitoba



Udaya Annakkage

Professor at University of Manitoba



James Peters

Professor at University of Manitoba



Dilruba Zaman Jeba, EIT

CAD Systems Support at Price Industries Limited



Arezoo Emadi

Ph.D., P.Eng., Research Engineer, Applied Research, Royal Canadian Mint, Research and Development Center of Excellence



Md. Obaj Tareq

Hardware Engineer at Librestream Technologies Inc.

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Publications

An Extended Floating Gate Gas Sensor using Polypyrrole as a sensing polymer

International Conference on Sensing Technology (ICST)

December 18, 2012

A novel charge sensitive sensor platform using a basic floating gate MOS (FGMOS) transistor has been developed. In this new design, the top metal layer of a standard CMOS process has been used as an extended sensor pad which is connected to the floating gate. A charge sensitive conducting polymer has been used to measure different gas analytes. This FGMOS sensor significantly reduces the number of... [more](#)

4 authors

Douglas Buchanan

Professor, Electrical and Computer Engi...

Md.Obaej Tareq

Hardware Engineer at Librestream Tech...



Ramesh Kumar Mani



Freund, M.S.



Languages

English

Native or bilingual proficiency

French

Elementary proficiency



Skills

Top Skills

41	Thin Films	           
40	Nanotechnology	           
33	Research	           
33	Silicon	           
26	Simulations	           
24	Physics	           
22	Characterization	           
21	Science	           
15	Semiconductors	           
15	CMOS	           



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Doctor of Philosophy (Ph.D.), Applied Physics and Electronics

1982 – 1986

University of Manitoba

B.Sc, M.Sc., Electrical Engineering

1976 – 1982



Organizations

Fellow fo the Canadian Academy of Engineering

Recommendations

Given (2)

**Rhonda Friesen**

Manager, Office of International Relations

“ In my positions as Associate Dean (Research) and as Acting Dean in the Faculty of Engineering at the University of Manitoba I had the great pleasure of working with Rhonda on many occasions when dealing with international relations that affected the faculty.

I found it a great pleasure working with Rhonda. She has a very likable and professional manner and performed... **more**

August 16, 2016, Douglas worked with Rhonda at University of Manitoba

**Jane Polak Scowcroft**

“ I have known Jane for a numbers of years since she was student of mine several years ago. Jane is an incredile young woman with great drive and energy. She is extremely bright and quick on her feet and is, and will continue to be, a very good engineer. I have nothing but the utmost respect for this young lady and I know she will do well in all that she undertakes.”

August 8, 2011, Douglas taught Jane at University of Manitoba

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