

René L. Warren

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Objective: Lead group to realize the potential of genomics

I am a Coordinator, Researcher and Senior Bioinformatician with over 20 years experience in biotechnology, genomics and computing research. I have played a central role in managing the bioinformatics of large international collaborations to decrypt the genomes of *Rhodococcus*, spruce and bullfrog. I developed the first program for genome assembly with short DNA sequences and pioneered the development of genomics technologies that enabled the discovery of *Fusobacterium* in colon cancer, one of *Time Magazine's* top ten medical breakthrough of 2011.

I currently lead the BC Genome Sciences Centre's bioinformatics technology lab high-performance computing group and I am eager to take on additional challenges and leadership.

Language spoken and written: Français and English

PROFESSIONAL EXPERIENCE

Sep 2013 –
Present

Bioinformatics Coordinator

BC Cancer Agency – Genome Sciences Centre, Vancouver BC

- Provide project leadership, expertise and guidance
- Plan and coordinate activities of the group
- Ensure project deliverables and timelines are met
- Report progress to stakeholders
- Lead the final research manuscript of Genome Canada funded White Spruce genome sequencing project
- Lead / support manuscript writing efforts, data analysis coordination
- Peer-review manuscripts for journals Bioinformatics & BMC bioinformatics
- Drive / assist in writing research proposals
- Supervise / Mentor a team of computational biologists and programmers
- Interview job candidates, teach and train personnel
- Support legacy bioinformatics software

Jul 2013 –
Sep 2013

Research Biologist

Canadian Food Inspection Agency (CFIA), Ottawa ON

- Commenced building CFIA's capacity in genomics and bioinformatics for early detection of pathogens and support Canada's food safety mandate
- Liaised with stakeholders for acquisition of dedicated internet network

Apr 2010 –
May 2013

Bioinformatics Coordinator

BC Cancer Agency – Genome Sciences Centre, Vancouver BC

- Lead bioinformatics software development and research
- Published research in reputed journals and at international conferences
- Peer-review manuscripts for journals Bioinformatics & BMC bioinformatics
- Wrote research proposals for grant application
- Trained employees and graduate students

Jan 2002 –
Mar 2010

Computational Biologist

BC Cancer Agency – Genome Sciences Centre, Vancouver BC

- Lead the development of internationally acclaimed software
- Published research in reputed journals and at international conferences
- Managed the bioinformatics team that decrypted the first bacterial (*R. jostii* RHA1) and fungal (*C. gattii*) genome sequenced in Canada
- Worked in collaboration with teams on federally funded projects
- Designed/implemented databases to manage data from large-scale genomics projects
- Developed marketing material such as web portals and news release
- Supervised a team of computational biologists and programmers
- Liaised with principal investigators / project stakeholders (genomeBC)
- Wrote bioinformatics statements of work to support research
- Interviewed job candidates, taught and trained employees

Jan 2000 –
Dec 2001

Technical Officer

National Research Council - Biotechnology Research Institute, Montreal QC

- Co-engineered a new system for regulating gene expression in cells
- Rescued this project from failing course
- Work led to a patent and the technology sold to a company in late 2001
- Designed, fabricated and tested components of the DNA gene switch
- Worked with teams to integrate technology in other systems (viral, cell)

EDUCATION

Sep 2005 –
Jun 2006

People and Project Management Courses

Provincial Health Services Authority of British Columbia, Canada

Sep 2000 –
Dec 2001

Computer Science Courses

Concordia University, Montréal, Canada

Jun 1997 –
Aug 1999

M.Sc. Biochemistry & Molecular Biology

University of British Columbia, Vancouver, Canada

Studies of the regulation of rod photoreceptors cGMP-gated channels

Sep 1994 –
May 1997

B.Sc. Biochemistry, dean Honour list mention in 1995 and 1996

Université de Montréal, Montréal, Canada

Structure-function studies of the transcription factor Nkx2-5

ADDITIONAL INFORMATION

2015	Recipient of the John Jambor Knowledge Fund, 23 rd Conference on Intelligent Systems for Molecular Biology
2011	Interviewed with channel <i>NTN24</i> for <i>Fusobacterium</i> discovery in human colorectal carcinoma
2009	Interviewed with <i>The Scientist</i> for work on profiling T-cell metagenomes
2009	Assembly software SSAKE packaged in the Debian operating system
2009	One of 6 experts invited by <i>Genome Technology</i> magazine to discuss next-generation sequencing
2008	The president of the <i>International Society for Computational Biology</i> (ISCB) recognized SSAKE as one of 27 publications with the most impact in translational bioinformatics
2007	Interviewed by <i>GenomeWeb</i> for the development of SSAKE, the first software for assembling next-generation DNA sequences. Software gained international recognition
2004	Article "Warren R <i>et al</i> , 2004", a recommended read by the <i>faculty of 1000</i>
1998	University of British Columbia Graduate Fellowship (UGF) awarded for MSc
1997	Excellence award from the <i>Fonds de la recherche en santé du Québec</i> (FRSQ) for thesis
1996	Bursary from the FRSQ for the initiation of BSc honour's research project
1995	Worked at NASA to coordinate the crystallization of proteins under microgravity [CMIX-4 payload, space shuttle Endeavour]

PRESENTATIONS (International conferences)

2016	Intelligent Systems for Molecular Biology (ISMB) Orlando, USA - talk
2015	Intelligent Systems for Molecular Biology (ISMB) Dublin, Ireland - talks
2012, 2015	Pacific Symposium on Biocomputing, Kona, Hawaii, USA – poster
2010	Sequencing, Finishing and Analysis in the Future, Santa Fe, New Mexico, USA – talk
2009	Advances in Genome Biology and Technology, Marco Island, Florida, USA – 2 posters
2008	Pacific Symposium on Biocomputing, Kona, Hawaii, USA – poster
2007	Synthetic Biology 3.0 conference, Zürich, Switzerland – talk
2005	5th CSHL/Wellcome Trust Genome Informatics meeting. Cold Spring Harbor, NY, USA – poster
2004	7th Annual Conference on Computational Genomics. Reston, Virginia, USA – poster
2004	Genomes 2004: International Conference on Microbial Genomes. Hinxton, UK 2004 – poster
2003	3rd CSHL/Wellcome Trust Genome Informatics meeting. Cold Spring Harbor, NY, USA – poster

PUBLICATIONS (selected, from 40)

- Warren RL, et al.** (2015) LINKS: Scalable, alignment-free scaffolding of draft genomes with long reads. *GigaScience* 4:35
- Brown SD, **Warren RL, et al.** (2014) Neo-antigens predicted by tumor genome meta-analysis correlate with increased patient survival. *Genome Res.* 24:743-50
- Warren RL, et al.** (2013) Co-occurrence of anaerobic bacteria in colorectal carcinomas. *Microbiome.* 1:16
- Warren RL, et al.** (2012) Derivation of HLA types from shotgun sequence datasets. *Genome Med.* 4:95
- Castellarin M*, **Warren RL***, et al. (2012) *Fusobacterium nucleatum* infection is prevalent in human colorectal carcinoma. *Genome Res.* 22:299-306 *equal contributions
- Warren RL, Holt RA** (2011) Targeted assembly of short sequence reads. *PLoS ONE* 6(5): e19816
- Warren RL, Holt RA** (2010) A census of mutational epitopes suitable for immunologic cancer control. *Hum Immunol.* 71:245
- Warren RL, et al.** (2009) Profiling model T cell metagenomes with short reads. *Bioinformatics.* 25:458
- Warren RL, et al.** (2008) Transcription of foreign DNA in *Escherichia coli*. *Genome Res.* 18:1798
- Warren RL, et al.** (2007) Assembling millions of short DNA sequences using SSAKE. *Bioinformatics.* 23:500
- Mullick A, Xu Y, **Warren R, et al.** (2006) The Cumate gene-switch: a system for regulated expression in mammalian cells. *BMC Biotechnology.* 6:43
- Warren R, et al.** (2006) Physical map-assisted whole-genome shotgun sequence assemblies. *Genome Res.* 16:768
- McLeod MP, **Warren RL, et al.** (2006) The complete genome of *Rhodococcus* sp. RHA1 provides insights into a catabolic powerhouse. *Proc Nat Acad Sci USA.* 103:15582
- Warren RL, et al.** (2005) Management and visualization of whole genome shotgun assemblies using SAM. *Biotechniques.* 38:715
- Warren R, et al.** (2004) Functional characterization of a catabolic plasmid from polychlorinated-biphenyl-degrading *Rhodococcus* sp. strain RHA1. *J Bacteriol.* 186:7783
- Warren R, Molday RS.** (2002) Regulation of the photoreceptor cyclic nucleotide-gated channel. *Adv Exp Med Biol.* 514:205
- Durocher D, Charron F, **Warren R, Schwartz RJ, Nemer M.** (1997) The cardiac transcription factors Nkx2-5 and GATA-4 are mutual cofactors. *EMBO J.* 16:5687

PATENTS

E Allen-Vercoe, R Holt, R Moore, **R Warren**

Detection of fusobacterium in a gastrointestinal sample to diagnose gastrointestinal cancer
US Patent App. 13/877,421 / WO Patent 2,012,045,150

REFERENCES

Available upon request