Curriculum Vitae of Robert Jones

Personal Information

Nationality	British (Permanent Resident Alien in U.S.)
Qualifications	BA, D.Phil.

Education and Employment

November 1997 – present

Self employed, doing business as Craic Computing LLC, Seattle, WA, - a bioinformatics consulting company that provides custom software, databases and advanced data analysis services to biotechnology companies.

Significant projects in 2014 / 2015

Annotation of the genome and plasmid sequences of nitrogen fixing bacterium *Azotobacter chroococcum* for publication
Analysis of Ebola virus sequences in support of a PCR diagnostics assay deployed in West Africa in early 2015
Design and evaluation of PCR diagnostic assays for Haemorrhagic fever viruses, Tuberculosis and Hepatitis

Past and present projects have involved work in the following areas:

Development and maintenance of a commercial database on therapeutic antibodies for biotech and pharmaceutical companies.
Design and review of PCR primer sets for a number of diagnostic assays related to infectious diseases and types of cancer.
Software for detecting sequences of hazardous biological agents submitted to DNA synthesis companies.
Data management for a public health study of unexplained diarrhea in children in Washington state.
Microarray analysis of gene expression in various types of cancer.
Management of DNA sequences generated in a company sequencing facility.
Broad data management across multiple, related gene discovery projects.
Assembly and analysis of entire genome sequence of the bacterium *Propionibacterium acnes*.
Data management for corporate invention disclosures and patent applications.
Identification of bacteria isolated from patients with Inflammatory Bowel Disease and Ulcerative Colitis.
Identification of SNPs using mass spectrometry and a novel amplification technology.
Software for managing chemical inventory within biotechnology companies.

June 1994 – October 1997

Director of Computing at Darwin Molecular Corporation, Bothell, WA. Established and directed the ten person Computing Group, with responsibility for all aspects of computing systems support, computational biology and software development within the company. Closely involved in the sequence analysis of the Alzheimer's and Werner's Syndrome gene discoveries at the company.

November 1988 - May 1994

Scientist with Mathematical Sciences Research Group of Thinking Machines Corporation, Cambridge, MA, USA. Developed novel applications in computational biology that made use of massively parallel computers.

May 1987 - October 1988

Postdoctoral Research Associate with Prof. Michael Waterman, Depts. of Mathematics and Molecular Biology, University of Southern California, Los Angeles. Developed computer methods for identifying conserved sequence domains in proteins.

January 1985 - April 1987

Postdoctoral Research Associate with Prof. Robert Haselkorn, Dept. of Molecular Genetics and Cell Biology, University of Chicago. Studied the regulation of nitrogen metabolism in the bacterium *Rhodobacter capsulatus*.

October 1981 - December 1984

Postgraduate research assistant with Dr. Rob Robson, Agricultural Research Council Unit of Nitrogen Fixation, University of Sussex, Brighton, UK. Doctor of Philosophy degree awarded in January 1985 for research in the molecular biology of nitrogen fixation in the bacterium *Azotobacter chroococcum*.

September 1980 - September 1981

Full time Volunteer Youth Worker, Glebe House Children's Center, Strangford, Northern Ireland, bringing together children from deprived republican and loyalist areas of Belfast as part of the peace process.

October 1976 - July 1980

Undergraduate, Pembroke College, Oxford University. BA in Biochemistry.

Publications

Azotobacter Genomes: The Genome of Azotobacter chroococcum NCIMB 8003 (ATCC 4412)

R.L. Robson, **R. Jones**, R.M. Robson, A. Schwartz, T.H. Richardson
PLoS One. (2015) Jun 10;10(6):e0127997 (Pubmed)

Diarrhea etiology in a pediatric emergency department: a case control study

D.M. Denno, N.Shaikh, J.R. Stapp, X. Qin, C.M. Hutter, V. Hoffman, J.C. Mooney, K.M. Wood, H.J. Stevens, **R. Jones**, P.I. Tarr, E.J. Klein.
Clin Infect Dis. (2012) 55:897-904 (Pubmed)

Tri-County Comprehensive Assessment of Risk Factors for Sporadic Reportable Bacterial Enteric Infection in Children

D.M. Denno, W.E. Keene, C.M. Hutter, J.K. Koepsell, M. Patnode, D. Flodin-Hursh, L.K. Stewart, J.S. Duchin, L. Rasmussen, **R. Jones**, and P.I. Tarr J.Infectious Diseases (2009) 199:467-476 (Pubmed)

Sequence Screening,

R. Jones In: Working Papers for Synthetic Genomics: Risks and Benefits for Science and Society, pp. 1-16. Garfinkel MS, Endy D, Epstein GL, Friedman RM, editors. 2007

Internet Forensics

R Jones ISBN 0-596-10006-X O'Reilly Media (2006) 223 pages
Book that describes techniques for identifying the source of spam email, phishing attempts, internet scams and other malicious activity.

Errors in patent application sequence listings

R Jones Nature Biotechnology (2003) 21: 1239-1240 [Not peer reviewed]

On the Application of the Minimal Principle to Solve Unknown Structures

R Miller, GTDeTitta, **R Jones**, DA Langs, CM Weeks and HA Hauptman (1993). Science 259:1430-1433 (Pubmed)

Solving the Phase Problem of X-Ray Crystallography on Parallel Machines.

CS Chang, GT DeTitta, HA Hauptman, **R Jones**, R Miller, P Thuman and C Weeks.
In: The Sixth SIAM Conference on Parallel Processing for Scientific Computing (1993) vol.1, pp.304-307, SIAM Press, Philadelphia

The *nifH* gene encoding the Fe protein component of the molybdenum nitrogenase from *Azotobacter chroococcum*

R Jones, P Woodley, A Birkmann-Zinoni and RL Robson. Gene (1993) 123: 145-146 (Pubmed)

Protein Sequence and Structure Comparison on Massively Parallel Computers

R Jones, Intl. Journal of Supercomputer Applications (1992) 6: 138-146

Sequence Pattern Matching on a Massively Parallel Computer

R Jones, Computer Applications in the Biological Sciences (1992) 8: 377-383

Alerting users to relevant new entries in the GenBank DNA sequence database

R Jones, Computer Applications in the Biological Sciences (1992) 8: 199

Nucleotide sequence and genetic analysis of the *nifU, nifS, nifV, nifW, nifZ, nifM* gene cluster in *Azotobacter chroococcum* including a new gene (*nifP*) which encodes a serine acetyl transferase.

DJ Evans, **R Jones**, PR Woodley, RJ Wilborn and RL Robson. J.Bacteriol. (1991) 173: 5457-5469 (Pubmed)

Protein Sequence Comparison on the Connection Machine CM-2: A Collection of Results.

R Jones, Thinking Machines Corporation Technical Report CB90-3 (1990) [Not peer reviewed]

Consensus Methods for DNA and Protein Sequence Alignment

MS Waterman and **R Jones**. In: Methods in Enzymology, vol.183, pp. 221-237, Ed. R.Doolittle, Academic Press, 1990

The DNA sequence of the *Rhodobacter capsulatus ntrA*, *ntrB* and *ntrC* gene analogues required for nitrogen fixation.

R Jones and R Haselkorn. Mol.Gen.Genet. (1989) 215: 507-516

Protein Sequence Comparison on the Connection Machine CM-2

R Jones, W Taylor IV, X Zhang, JP Mesirov and E Lander
In: Computers and DNA, SFI Studies in the Sciences of Complexity, vol.VII
Eds. G.Bell and T.Marr, Addison-Wesley Longman, 1989

Patent Applications

WIPO Pub Number: WO2016 028312
Methods for Detecting Influenza

A Mokkapati, B Brown, R Jones

Compositions and methods for detecting influenza are provided.

This patent describes PCR primer/probe sets for use in a sensitive and selective diagnostic test for several Influenza subtypes.

WIPO Pub Number: WO 03/033515
Compositions and methods for the therapy and diagnosis of acne vulgaris

JL Mitcham, YAW Skeiky, DH Persing, A Bhatia, J-FL Maisonneuve, Y Zhang, S Wang, S Jen, MJ Lodes, DR Benson, **R Jones**, D Carter, B Barth, J Vallieve-Douglas

Compositions and methods for the therapy and diagnosis of acne vulgaris and other related conditions are disclosed. Compositions may comprise one or more Propionibacterium acnes proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antibody that binds a Propionibacterium acnes protein, antigen presenting cell that expresses a Propionibacterium acnes protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and/or treatment of acne.

WIPO Pub Number: WO 01/92581
US Patent Application: 20020132237
Compositions and methods for the therapy and diagnosis of ovarian cancer

PA Algate, **R Jones** and SL Harlocker

Compositions and methods for the therapy and diagnosis of cancer, particularly ovarian cancer, are disclosed. Illustrative compositions comprise one or more ovarian tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly ovarian cancer.

Programming Skills

Most of my current programming work falls into two categories :

Web sites written in Rails and Sinatra backed by Postgres databases
Custom bioinformatics software written in Ruby

Primary languages/frameworks are Ruby, Rails, Sinatra, JavaScript

Proficiency in C, Perl and Python

Some work with Arduino and Raspberry Pi interfacing them with sensors for temperature control, GPS, image capture, etc.
Some work with Python and OpenCV for image analysis.

Extensive past experience with Perl, C and specialized languages for parallel programming

Examples of Coding Ability

http://craic.com
    Web site for my consulting business
http://tabs.craic.com
    Commercial database on Therapeutic Antibodies for biotech companies.
http://apprentice.craic.com
    Tutorials and examples on HTML5 and JavaScript

Github profile: https://github.com/craic?tab=repositories

Volunteer Experience

King County Master Gardener (2015-) - participate in gardening clinics and work in demonstration gardens

Lakou Lape (2013-2014) - built and maintained a web site for a project in Haiti that works to reduce gang violence in the deprived neighborhoods of Port-au-Prince

Chicago Boys and Girls Club (1985 - 1986) - helped once a week with after school activities at Yancey Unit in the South Side neighborhood of Chicago

PHAB (Physically Handicapped / Abled Bodied) - Brighton, UK - (1982-1984) - Ran a weekly youth club for a mixed group of physically disabled and non-disabled teenagers. Organized the program for a week long summer school in Birmingham around the theme of new technology (computers, synthesizers, video)

Glebe House, Northern Ireland (1980-1981) - see above - full time volunteer for one year, working in a leading peace building project that broke down the barriers between youth in working class republican and loyalist areas.

Glebe House, Northern Ireland (Summer 1978 and 1979) - short term volunteer