X-Sieve: CMU Sieve 2.2
Date: Mon, 14 Nov 2005 10:06:19 -0500
From: Andrew Emili <andrew.emili@utoronto.ca>
User-Agent: Mozilla Thunderbird 1.0 (Windows/20041206)
X-Accept-Language: en-us, en
To: Jeremy Bennett <jebennet@indiana.edu>
CC: Andrew Emili <andrew.emili@utoronto.ca>
Subject: Re: Reference for the Faculty position application of Dr. Gareth Butland

Once again - as word, PDF and copied text:

*Personal and Confidential***

Dr. Jeremy Bennett
Faculty Search Coordinator
Department of Biology
Indiana University
1001 East 3rd Street
Jordan Hall 127
Bloomington, IN 47405-3700
Phone: (812) 856-5743
Fax: (812) 855-1687
Email: jebennet@indiana.edu <mailto:jebennet@indiana.edu>

November 14^th , 2005

RE: Reference for the Faculty position application of Dr. Gareth Butland

Dear Dr. Bennett:

I am writing this letter to enthusiastically support the application for a Faculty position in the Department of Biology at Indiana University by Dr. Gareth Butland, a senior Post-Doctoral Research Fellow in my laboratory here at the Banting and Best Department of Medical Research, University of Toronto. Based on my frequent and ongoing professional interactions with Gareth over the past three years, I can confidently recommend him as an extremely productive, mature and methodical researcher, ideally suited to the research aims of your institute and the challenges of a more senior academic position. Gareth has proven to be an exceptionally hard-working and meticulous scientist, and a thoughtful and engaging colleague - a good combination of traits that will serve him well as a more senior Faculty member. I firmly believe he has a promising academic research career ahead of him, combining proven strengths in bacteriology, advanced functional proteomic and bioinformatics methods, and well-developed interests in traditional hypothesis-driven areas of fundamental protein biochemistry.

Since joining my laboratory in the summer of 2001, Gareth has been directing a large-scale, cross-disciplinary, multi-group collaborative research projects centered on the systematic global (genome-scale) proteomic analysis of protein complexes in /E. coli/, with the ultimate aim of elucidating the complete "interactome" of this important model organism. These studies have involved state-of-the-art methods in large-scale genetic recombineering (to integrate epitope tags onto hundreds of targeted ORFs using homologous recombination), affinity

purification (using the TAP and SPA methods), tandem and gel-based protein mass spectrometry, and relevant aspects of molecular biology and functional genomics. Gareth can now be considered as an expert in an array of powerful proteomic procedures and has proven to be highly resourceful, knowledgeable and effective in this challenging, competitive and fast moving field of functional genomics. Gareth now has first hand knowledge of high-performance capillary-scale shotgun tandem mass spectrometry, as well as a diverse array of sophisticated molecular genetic techniques. He also has a broad knowledge base in modern concepts in bacteriology and protein biochemistry, and is familiar with diverse bacterial model systems in addition to /E. coli/. These qualities, combined with a solid academic focus, have made Gareth a tremendous asset to my group as we have embarked on a series of difficult research problems ultimately aimed at elucidating the global organization and diversification of protein interaction networks and gene function across prokaryotes.

Gareth has just completed an ambitious, genome-scale proteomic analysis of hundreds of protein complexes in /E. coli /[Butland et al., Nature, 2005], which will serve as an outstanding resource for bacteriologists for years to come. For this project, he co-developed an effective, and rigorous, platform of high-throughput methods for systematic large-scale affinity purification and mass-spec characterization of endogenous bacterial protein complexes, and by inference the networks of protein-protein interactions that coordinate biochemical function in bacterial cell. Under his stewardship, a small team of technicians successfully tagged and purified over 1200 different gene products (>1/4 of the genome). This innovative study has provided insight into the functions of many previously uncharacterized proteins as well as the overall topology of protein interaction networks. Gareth's study also reinforces the utility of combining proteomics and comparative genomics to define the function and molecular architecture of microbial biochemical systems from a systems-wide perspective. While the core components of these networks have proven to be broadly conserved, our initial analyses have also uncovered evidence of significant functional diversification in cross-species comparative genomic projections.

Gareth has since built on these findings, both by continuing his large-scale pan-genome analysis of protein complexes as well as by initiating more in-depth functional characterization of discreet biochemical pathways. In particular, he has been closely investigating several novel protein complexes linked to iron-sulfur cluster formation and enzyme maturation, using targeted gene knockout technology together with exhaustive proteomic analysis of mutant complex variants and a battery of phenotypic assays. These hypothesis-driven studies are providing interesting findings regarding basic biochemical mechanisms, and have broad implication for models of bacterial protein function.

In terms of scientific output and achievement, Gareth has proven to be an incredibly productive and motivated researcher. These qualities have paid off handsomely. Since joining my laboratory, he has already authored/co-authored several research articles in respected peer-reviewed journals, and is well on his way to completing at least several more first-author publications based on his most recent studies. Most of his studies have been performed in close collaboration with (among others) other University research groups, including my colleagues Drs. Jack Greenblatt, Deborah Zamble, and John Parkison, which serves to demonstrate Gareth's abilities to interact productively and effectively with other scientists.

In terms of professional character, Gareth has proven to be a rigorous and thoughtful experimentalist. He is an intelligent, pleasant individual, who enjoys discussing new research findings. He documents his research findings in a precise, clear and exact manner, and has considerable talent and drive for presenting his own research findings in an insightful and

engaging manner. He is a talented, and rigorous, bench biologist, but is equally adept at performing sophisticated computational (bioinformatic) analyses as he is doing or directing wet-lab experiments. He has a solid professional work ethic and a great aptitude for critical reasoning in a meticulous and consistent manner. Gareth has also proven to be an innovative researcher, having introduced, developed or implemented a number of new analytical techniques and data analysis strategies to my group. In between experiments and the preparation of manuscripts and talks, Gareth has put in considerable time and effort to learn new skills, ranging from informatics approaches for data processing to evaluating new experimental techniques. He is well versed in the important statistical and data mining issues associated with large-scale data analysis, the concepts of mass spectrometry, and the broader problems related to bioinformatics. As a member of our Research Institute, which has many strong research groups active in Functional Genomics, Gareth has also been exposed to a wealth of advanced concepts, datasets and techniques in "systems" and "integrative" biology, which will serve him well as he seeks to establish an internationally competitive research group.

In terms of personality, Gareth is a pleasure to work with. He has a solid work ethic, performing to the fullest of his abilities, and is one of the most diligent researchers at our Institute. While somewhat reserved, he is helpful with his peers and colleagues, and has demonstrated a good collegial group spirit. He is well organized, shows good initiative, and is highly responsive always well prepared to field questions in informal meetings. He clearly enjoys developing thoughtfully crafted analytical strategies for his research problems, and tackles all projects with efficiency, competence and care. He also has a dogged determination to make each experiment count, and develops appropriate experimental strategies with competence and rigor. Gareth is well respected by other members of our group and by his peers and colleagues within the Department. He has initiated a number of collaborative interactions with other research groups, both in Canada and aboard, and is frequently sought out for advice and collaboration. His writes with care, competence and ease and, with guidance, I believe he should be able to draft competitive, original grant proposals. He has represented the lab at several research conferences, and I always been confident in his professionalism.

In summary, I enthusiastically support Dr. Butland's application for for a Faculty position in the Department of Biology at Indiana University as I believe he is an outstanding and collegial "systems biologist", molecular biologist, and biochemist, combining proven strengths in several important emerging research disciplines together with the potential to develop into a highly productive, and collaborative, independent investigator. Gareth is very well positioned to exploit his accomplishments to date as he moves forward to establish his own research group. His long-term research interests promise to build upon his expertise and interests, and I am confident that he will successfully investigate fundamental aspects of bacterial biology from a systems perspective that are directly relevant to your Institute's research mandate. His findings will also be of broad interest to the hard core bacteriology, proteomics and system biology communities.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Dr. Andrew Emili, PhD

Associate Professor

Program in Proteomics and Bioinformatics

Banting and Best Department of Medical Research

Dept of Medical Genetics and Microbiology

University of Toronto

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Jeremy Bennett wrote:

> Dr. Emili,
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> Unfortunately, I could not open your PDF file. Can you resend, as well as copy the letter into the text of an email?
>
> Thanks,
> Jeremy
>
> At 08:41 AM 11/14/2005, you wrote:
>
> > Dear Dr. Bennett:
> >
> > Please find my reference letter supporting the Faculty position application in the Department of Biology at Indiana University by Dr. Gareth Butland, a senior Post-Doctoral Fellow in my laboratory here at the University of Toronto.
> >
> > I would be happy to take a call if needed.
> >
> > Best,
> >
> > Andfrew Emili
> >
> > --
> > Andrew Emili, PhD
> > Associate Professor