New Chief Editor for Biophysical Reviews

by Damien Hall

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After accepting an invitation in late January of 2019 by the IUPAB Executive, I became the third Chief Editor of Biophysical Reviews. In this companion piece to a Commentary describing the journal, I have been asked by the IUPAB Secretary General Prof. Juan Carmelo Gomez-Fernandez to provide a short self-introduction, both scientifically and personally, to readers of the IUPAB Newsletter. With a belief that you can only really judge a scientist by reading their papers, I have included some references from different stages of my career framed within a general narrative of my working life.

Early Life: I grew up in Queensland Australia, as the youngest child in a family of newly arrived immigrants from England. My Father was a policeman and mother a homemaker. We moved around a lot due to my Father’s frequent work transfers, which allowed me to see a lot of the very large state of Queensland as a child (crocodiles, kangaroos, beaches and the beautiful Queensland outback/bush). As a memorable counterpoint I also lived for about a year in London UK, when I was twelve years old. Like a lot of children in Australia, I performed some of my early schooling via correspondence course which in those days involved sending and receiving course work via post and occasionally talking to your teacher by telephone or radio.

Education: I performed my high school studies in the capital city of Brisbane, where my Father was posted for the latter half of his career. After graduating from high school I was granted admission to study science at the University of Queensland – one of the so called ‘group of eight’ major Australian universities. Performing my undergraduate studies with final-year majors in chemistry and biochemistry I received a first class Honours degree in 1995. From 1996 to 1999 I earned a PhD in Biochemistry, carrying out my studies within the Laboratory for Physical Biochemistry headed by Prof. Donald J. Winzor. Don was literally one of Australia’s first home grown physical chemists [Winzor, 2016]. By taking only one student at a time he had an uncommon approach to supervision that comported more to the K-type strategy in r/K evolutionary theory [Parry, 1981]. My doctoral studies were concerned with investigations into the theory and measurement of protein adsorption to surfaces [Hall, 1999]. Don retired soon after I graduated, making me his last student. I enjoyed my Ph.D. research with Don and later came to appreciate the value of his style of training from a Malthusian perspective. During my candidature I attended a talk by Arthur Kornberg in which he encouraged all scientists to change topics every five years during the early stages of their research life. Taking this advice to heart after graduating I left to start my first postdoctoral position on a new research subject!

Working Life: My first job was as a John E. Fogarty Fellow working in the Section on Physical Biochemistry at the National Institutes of Health USA. I had come to the NIH to work with Dr. Allen Minton, who although known for his work in developing the macromolecular crowding concept [Minton, 2013] was (and still is) a physical chemist who had made significant developments in many different areas including interfacial chemistry, quantum theory, colloidal analysis and characterization of biomolecular interactions. From 2000 – 2003 I worked on the topic of cytoskeletal assembly in complex fluids, such as those found in the cell cytosol. This time was academically very stimulating and Allen and I wrote a number of papers together [e.g. Hall and Minton, 2002; Hall and Minton, 2003; Hall and Minton 2004]. Largely due to Allen’s encouragement I was able to publish a number of single author papers on various topics related to my main research [Hall, 2001; Hall, 2002; Hall, 2003]. Two that I found to be of particular interest concerned novel aspects of macromolecular crowding [Hall, 2002] and tubulin assembly kinetics [Hall, 2003]. As is my research preference (and was drilled into me during my PhD training) both works involved a combination of experimental and theory/simulation.

I had long been interested in concepts associated with reduction in dimensionality of diffusion search space as applied to biology. With Kornberg’s advice still in my mind I wrote a fellowship application to examine some of these concepts and left the US in 2003 to begin another new topic, this
time at the Department of Chemistry within the University of Cambridge UK. My Human Frontiers Science Program Fellowship was carried out in the newly established Biophysical Laboratory headed by Prof. Christopher M. Dobson (My sincere condolences to Chris’s family and close friends upon his recent passing). My time in Chris’s laboratory was interesting as it was my first time being in a mega-lab (spread across three departments with altogether about 50 postdoctoral scientists and PhD students). Upon starting out Chris asked me to help out two scientists who had been there for a few years without yet publishing their work. This request had quite an impact on my life for a number of reasons. Of the two requested interactions, one led to one of my most highly cited articles [Carulla et al. 2005] whilst the other let me meet and work with the person who would later become my wife and mother of my four children (Hall, Hirota and Dobson, 2004). Furthermore these two interactions got me seriously interested in the subject of measuring and modeling amyloid kinetics, of which I was perhaps first proponent within the greater Dobson group [Hall and Edskes, 2004]. Riding the customarily required rusty bicycle around town I really enjoyed my time working in Cambridge and was genuinely grateful to Chris for allowing me the chance to perform some fundamental research, both by myself and as part of a larger team [Hall and Edskes, 2004; Hall and Minton, 2005; Hall, 2005; Hall, Hirota and Dobson, 2005; Carulla et al. 2006; Hall and Dobson, 2006]. At the conclusion of my fellowship my new family (now consisting of four) decided to move to Japan.

For the majority of my time in Japan I worked as a Tokubetsu Assistant Professor within the Institute for Basic Medical Science at the University of Tsukuba. During that time, I was block funded by the Japanese Science and Technology agency (JST), working within a program called the Wakate Initiative for Young Scientists’ Independent Research. This program provided sufficient funds to allow me to maintain a laboratory composed of myself and one research assistant for five years. At that time I titled my laboratory research theme as ‘Physical Biochemistry of Disease’, a designation which I have maintained to the present. Although a little on the lonely side, this period of my life was a fantastic opportunity, as the core funding aspect allowed me to concentrate and plan my work over a longer time horizon than normal. This period also gave me the freedom to research a number of disparate topics, such as those related to complex diffusion patterns within the cell [Hall, 2008a; Hall and Hoshino, 2009; Hall, 2010], factors affecting virus adsorption [Hall, 2008b] and subtle aspects of amyloid biology [Hall and Hirota, 2009; Hall and Edskes, 2009; Hall 2012; Sasahara et al. 2010; Hall and Huang, 2012; Hall and Edskes, 2012]. It was also during this period that I began my association with Biophysical Reviews, first through the publishing of two review articles [Hall and Hoshino, 2009; Hall and Edskes, 2012] and then later, at the invitation of the Chief Editor Jean Garnier, by becoming an Editorial Board Member in 2010. During my time in Japan I made acquaintances with many fantastic Japanese scientists, with one of particular note being Prof. Fumio Arisaka, for whom the journal recently ran a Special Issue for his 70th birthday [Arisaka, 2018; Hall et al. 2018a].

The day after I arrived back from attending the US Biophysical Society Meeting in 2011 the largest earthquake to ever hit Japan occurred just as I was dozing off with jet lag at my desk. This time I was not the only one to run out of the building after the shaking began. Waiting outside, I and my fellow building residents literally fell over as the ground shook and the buildings around us buckled, cracked and split apart. Needless to say, it was quite scary. After the shaking stopped I raced home to my very (very) old house with a sense of complete dread but was extremely glad to meet my petrified family (now we consisted of six) all assembled in the parking lot. Less than an hour later a giant tsunami, generated by the earthquake, struck the coastal regions of the northeast face of Japan, causing the tragic deaths of nearly 20,000 people. A few days later a number of nuclear power plants located in the neighboring prefecture of Fukushima exploded. For a few months things were a little tense. Nevertheless, largely due to the admirable resilience of the Japanese people, a calm emerged and within a year or two things began to return to something resembling normal. Six days after the earthquake I picked up my first (very brave) Masters student, Mr. Phuong Nam Nguyen, from the airport. Two years later (and just in time for Nam to graduate [Nguyen 2013]) my Wakate Fellowship at the University of Tsukuba finished, after which I and family returned to Australia, whereupon I took up a Senior Research Fellowship at the
Australian National University. Although sorry to say goodbye to Japan, the next adventure awaited in Canberra.

After being in Japan for so long, returning to Australia in 2013 was both a pleasure and a definite culture shock! Whereas Japanese scientists were almost culturally mandated to not complain, to be modest and to downplay their research abilities and success, Australian-based scientists and students suffered none of these failings. Working within the Research School of Chemistry I was part of the Section on Biological Chemistry. Soon after starting, I was offered an Associate Professor position at the Institute for Protein Research at Osaka University in Japan. During my time at ANU I juggled these two positions by working for up to half of each year in Japan. This situation made it difficult to run a normal laboratory but nevertheless I somehow managed to successfully supervise one PhD student, Dr. Nicholas Ray [2017] and one Masters student, Mr. Ran Zhao [2018] as well as a number of Honours and undergraduate project students. Whilst in Australia I continued with my research theme on the ‘Physical Biochemistry of Disease’, but tailored the projects to ones I could carry out whilst shuttling between a dedicated protein research facility in Japan and a chemistry department in Australia.

Some examples of my research at this time include [Hall et al. 2014; Hall et al. 2015; Hall et al. 2016; Dalpadado et al. 2016; Hall, 2017; Hall et al. 2018; Zhao et al. 2016; Hall et al. 2018b].

Present Day: I concluded my Senior Research Fellowship at the Australian National University at the end of 2018. Retaining my Guest Associate Professor status at the Institute for Protein Research in Japan, I took an opportunity provided by the ORISE Institute from the US Department of Energy made available to Senior Scientists working in STEM type areas of research. Located within the National Institute for Diabetes and Digestive and Kidney Disease, Laboratory for Biochemistry and Genetics, I currently work as an ORISE Established Scientist investigating the transmission properties of yeast prions using a mixture of computational modelling and transmission/cryo-electron microscopy.

Conclusion: The year of 2019 has to date been quite busy. After accepting the invitation to become the new Chief Editor in January, I began the year by setting up the journal’s social media program and have, since then, shepherded four issues to press. Aside from journal related duties, moving countries and getting a research project started, I have used my spare time to write and publish a few articles [Hirota et al. 2019; Wakayama et al. 2019; Hall 2019]. Despite being quite busy, it is nevertheless, still very much a privilege to be associated with the Biophysical Reviews journal. The core twin missions of the journal are to,

(i) invite and facilitate the publication of topical reviews in biophysics by leading experts in the field, and
(ii) help develop and promote biophysical research around the world, particularly within developing areas,

These are aims that I genuinely support and practically speaking, these outlined goals are ones that Biophysical Reviews can play a very effective role in actualizing. Having been associated with the journal for nearly a decade, I have benefitted from the practical (and often humorous) training provided by the two previous Chief Editors (Jean Garnier and Cris dos Remedios) on how to effectively combine pragmatism with a pursuit for excellence. This year I have received much valuable advice, help and support from the journal’s Executive Editors and Editorial Board Members. To date, I have enjoyed my working interactions with the IUPAB President (Marcelo Morales) and Secretary General (Juan Carmelo Gomez-Fernandez) and look to continue this good working relationship with the IUPAB Executive, going forward, into the future.

In closing, I would like to encourage the reader who may be interested in writing a review article, to make contact with either myself, or a Member of the Editorial Board, to discuss their idea and to talk about realistic schedules for submission. Our aim is to seek out those with something to say and who can say it well, giving them ample time to do so. When English is a problem, the Biophysical Reviews Editorial team will pitch in and help, so that we can suitably canvass the widest array of international input to the journal.

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Biophysical Reviews: Past, Present and Future

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Corporation, Biophysical Reviews is the official journal of IUPAB. Starting with its inception in 2009 the journal has evolved from a low volume quarterly, publishing 30 review articles a year, to its current six-issue per year format, publishing 125 articles per year. As of 2019 Biophysical Reviews is one of the top-ranked journals in the world for biophysics related content [Scimago 2019]. Here I provide a short history of the journal and conclude with a look to the future, outlining some plans for consolidation and extension of the impressive growth made to date.

A Short History of Biophysical Reviews

In 2008 IUPAB formed an exploratory committee for the creation of its own journal. The motivation behind this push for a new journal was twofold, it would;

(i.) Provide a mechanism for raising

appointment of a Chief Editor who would in turn be responsible for determining the constitution of the Editorial Board and setting the academic course for the journal.

The starting directive for Biophysical Reviews was clearly enunciated by the founding Chief Editor, Dr. Jean Garnier, in his opening Editorial [Garnier, 2009].

‘Biophysical Reviews is dedicated to publishing short and critical Reviews written by key figures in the field. The aim of the Editorial board is that the subjects covered in these Reviews will—over the long term—be representative of the entire field of biophysics, generally defined as the science of describing and understanding biological phenomenon using the concepts and techniques of physics. In other words, biophysics is to physics as biochemistry is to chemistry.’

Jean served as the first Chief Editor of Biophysical Reviews from 2009 to 2014 (Fig. 1). During this establishment phase, the journal published four Issues per year with four to six review articles per Issue. Overall, this meant that the journal was producing twenty high-quality review articles (around 200 printed pages) per year. Looking through these early articles one notes the excellent support provided by the Biophysical Reviews’ Editorial Board and the IUPAB Council Members who showed great confidence in the journal by publishing their work within it.

Dr. Cristobal dos Remedios (Fig. 1) took over as Chief Editor in 2014 and set about instituting a number of reforms to assist with the expansion and development of the journal. Chief amongst these changes were; (i) Increasing the number of Issues
published each year from four to six; (ii) Increasing the amount of single-themed Special Issues published each year to half of the total number of Issues. By the end of Cris dos Remedios’s term as Chief Editor (2014-2019) these two reforms had helped to grow the journal to its current state in which it publishes around 120 articles per year, producing approximately 1000 pages of content [dos Remedios, 2016].

Present and Future
After serving as the journal’s Deputy Editor for four years, in early 2019 I was invited by the IUPAB Executive to become the third Chief Editor of Biophysical Reviews (Figure). In this section I first outline the present state of the journal, briefly reviewing the activities and contents of the current year. I then describe some future plans that, going forward, promise to help further consolidate Biophysical Reviews’ position as one of the top journals in the field.

With regard to the journal matters this year has been a busy one with four Special Issues and two regular Issues planned and a number of significant changes being implemented. One of these major changes has been the commissioning of a large number of Issue specific Commentaries and bespoke Editorials/sub-Editorials. This has provided an extra dimension to the journal by adding some human interest to the science being discussed. Hopefully this will help to further make the journal into something to be perused cover to cover (so to speak). A second major change has been the establishment of a social media program designed to provide post-publication exposure for both the articles appearing within, and causes promoted by, the journal. This social media arm has been designed to exploit SharedItTM, the principal component of the online content sharing program instituted by Springer [Hall, 2017]. In plain terms, SharedItTM is a web link to a pdf copy of the published Biophysical Reviews’ article housed on the ReadCubeTM website, which is only available for online perusal i.e. it cannot be printed or saved by a third party (unless it is also an open access article). Available to all authors and coauthors, the SharedItTM link can be freely posted online by anyone anywhere – potentially affording maximum exposure to an authors’ article. To help kick start this maximum exposure potentiality, the Biophysical Reviews’ social media program prominently features the SharedItTM link in an Issue summary video housed on the journal’s comment disabled YouTubeTM channel. Each article in the video summary is then further highlighted and cross-promoted via individual tweets emanating from the journal’s TwitterTM account. These initial entries into the online world can be used directly by the authors to both prime and bolster promotional activities for their article made by themselves, or by interested second parties through the involvement of institutional, public or commercial media services. The details for the journal’s social media accounts are as follows:

Biophysical Reviews’ YouTube Channel

Biophysical Reviews’ Twitter Account: @BiophysicalRev1

Moving on to 2020, the journal will undertake two further ventures. The first involves a National Biophysical Society partnership program in which
the journal will devote one Special Issue slot each year to highlight the structure and activities of a particular country’s biophysical society. I would like to thank the Executive Committee of the Biophysical Society of Japan for agreeing to be the first to engage this partnering role. The second major initiative for the coming year is the expansion of the Editorial Board to make it both larger and more representative of the world’s population centers and institutes carrying out biophysical research. So if you receive an email asking if you would consider joining the Editorial Board of a journal ... please don’t reach for the delete button too quickly, it could be Biophysical Reviews reaching out to you.

How to publish in Biophysical Reviews

In closing, I would like to leave the readers with an idea of how they might make a contribution to the journal. As Biophysical Reviews operates on an invitation to publish basis, in general any article should first be discussed with the Chief Editor or Member of the Editorial Board prior to submission. With this said, the journal accepts articles comporting to one of five general formats.

(i) Short Review (3,000-4,000 words, ~3 figures)
(ii) Long Review (10,000 words, ~10 figures)
(iii) Letter (300-600 words on a scientific topic)
(iv.) Commentary (200-400 words on an event, happening or opinion)
(v.) Editorial (no set format)

The hyperlinks to the journal’s main website, the submission portal and the instructions to authors are shown directly below.

Journal Website
Submission Portal
Instructions for Authors

Cost is always an important thing to keep in mind when seeking to publish one’s work. Biophysical Reviews operates on a hybrid open access model and as such offers two tracks of page charges. The first track is completely free. On this track the article will be held behind a paywall for six to twelve months before becoming freely available for download from PubMed. However, the authors will immediately receive a personal pdf copy, as well as a SharedItTM link to their article which they are free to distribute/post wherever they like (e.g. their website, TwitterTM etc.). A description of the SharedItTM concept and the advantages it offers to the authors has been previously described within the journal [Hall, 2017]. As a majority of centers of higher learning carry the Springer-Nature academic catalog package (of which Biophysical Reviews is a part) the paywall aspect is not a feature that tends to affect most readers working at a scientific institution, but instead tends to come into play for those trying to download an article from a home network/coffee shop etc. The second track involves the payment of an open access fee of about 2500 Euros. The open access route makes the article immediately freely available to anyone, irrespective of their location and also benefits from a number of Springer cross-promotional activities, across their various scientific journal websites, that are designed to add value to the open access fee. In general, both routes offer the author very suitable publishing outcomes.

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