



EDITORIAL

Open Access

Immunome Research - Five Years On

Professor Nikolai Petrovsky

Immunome Research came to life in 2005 [1] as an open access, peer-reviewed, online journal to provide a focal point for the nascent field of ‘immunomics’, a field bringing together traditional wet-lab immunology research approaches with the new sciences of genomics, proteomics, and bioinformatics as well as mathematical modeling [2,3]. Immunome Research provides coverage of all topics within the field of immunomics – including applications of genomics, proteomics, metabolomics and personalised medicine – to the study of the immune system and diseases thereof. This includes the sub-speciality of immunoinformatics, a term I coined with Vladimir Brusic in 2002 to a meeting sponsored by the Novartis Foundation that was held in London in 2002 under the title “Immunoinformatics: Bioinformatic strategies for better understanding of immune function” [4,5]. That meeting brought together for the first time experts from a wide array of different disciplines including immunology, bioinformatics and mathematical modeling, to discuss how we might help to move immunology research into the post-genomics world. From this highly successful meeting, the published proceedings of which remain one of the most successful and highly sought Novartis Symposium Proceedings [6], many initiatives came to life including the formation of the International Immunomics Society in 2003 under the Foundation President, Hans-Georg Rammensee. Immunome Research was officially launched in 2005 under a five-year publishing agreement with the open-access publisher, BioMedCentral [1]. The decision to adopt the open-access format of publication was taken, despite approaches from several traditional subscription-based publishers to

host the new journal, as I felt that it was critical for the immunomics field that all published papers in the new field be immediately accessible to all scientists, particularly those outside the field, to encourage them to start to apply these new cutting-edge immunomics tools and principles to their own research, thereby helping grow the field [7]. This was important, as at that time, there was no specialty journal covering the new and rapidly expanding immunomics domain and researchers in immunomics were forced to publish their research in predominantly subscription-based immunology or bioinformatics journals. Immunome Research was established to meet the need for a high-quality specialist immunomics journal to provide a focal point for the new field of immunomics and also to guide the development of consistent standards for the conduct and publication of immunomics research. For example, Immunome Research has played an important role in the publication of key results from the Immune Epitope Database Project, a major NIH-funded project managed by Alessandro Sette’s group that for the last five years has been exhaustively mapping, curating and analyzing both T- and B-cell epitopes [8-11]. It has also published key findings from the international ImMunoGeneTics information system, which has been a world-leading project in mapping the structures and function of major histocompatibility complex molecules [12,13] and from DC-Atlas, a major European initiative to dissect all signaling pathways in dendritic cells [14].

Over the last five years since the founding of Immunome Research enormous changes have taken place within the immunomics field, not only in the world of publishing but within science generally. Of paramount importance, the key objective of the original Novartis Symposium has been achieved in that the field of im-

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munomics is now well and truly accepted as a mainstream scientific research field, with considerable resources directed to researchers in the field by major funding bodies such as the US National Institutes of Health. International immunomics conferences that get larger with each successive year are now a regular part of the research calendar. These started with the First International Immunoinformatics Meeting convened by Christian Schoenbach and held in Yokohama, Japan in 2004, the Second International Immunoinformatics Meeting convened by Annie De Groot and held in Boston in 2005, the International Congress of Immunogenomics and Immunomics, Budapest convened by Vladimir Brusic and Andras Falus and held in Hungary in 2006 and ICIW2010 (Immunoinformatics and Computational Immunology Workshop), which took place in conjunction with the ACM International Conference on Bioinformatics and Computational Biology in Niagara Falls, New York in 2010. Immunomics workshops have also taken place in conjunction with larger meetings such as the Asia-Pacific Bioinformatics Network (APBioNet) International Conference on Bioinformatics (InCoB) meeting held in Tokyo in September 2010 and the Vaccine Renaissance Conference [15], convened annually in Providence by Annie De Groot, Director of the Institute for Immunology and Informatics at University of Rhode Island. In August this year the Second Immunoinformatics and Computational Immunology Workshop (ICIW2011) will take place in Chicago and in December this year an Immunomics workshop will occur in conjunction with APBioNet's and International Society for Computational Biology's (ISCB) InCoB/ISCB Asia Joint Conference 2011 in Kuala Lumpur.

When I established Immunome Research and entered into the initial publishing agreement with BioMedCentral, like many other independent journal editors, I did not appreciate that BioMedCentral, rather than being a not-for-profit entity, was a private for-profit entity. BioMedCentral was subsequently sold in October 2008 along with the journals it managed to Springer Science and Business Media. Thereafter followed a period of angst for the editors of the independent journals affiliated

with BioMedCentral as pressure was applied from BioMedCentral to increase article publication charges and close down journals with low publication rates. Needless to say, this desire to maximize the profits for BioMedCentral and its new parent ran contrary to my vision for Immunome Research and the decision was taken to move the journal away from BioMedCentral. My priority as founding editor was to keep the journal open-access and this restricted options for a new journal home. I elected, therefore, to move Immunome Research to an open-source journal publishing system (OJS) [16] that has been established as part of the Public Knowledge Project. Nikolai Petrovsky Publishing is now the publisher in place of BioMedCentral. I would like to thank the staff at BioMedCentral for their help with the transfer.

The process of re-building Immunome Research is now well underway, with the new journal system operational through the web at www.immunome-research.net. Most submission problems, to date, have largely been a matter of authors and reviewers getting used to the new journal interface and I thank them all for their patience and persistence. The first papers since the change of publisher should appear within the next month. Several special supplements are in various stages of preparation with Yasser EL-Manzalawy kindly agreeing to act as Guest Editor to produce a special supplement of papers selected from the First Immunoinformatics and Computational Immunology Workshop held in Niagara Falls last year. Plans are also underway to revamp and revitalize the Editorial Board and to recruit additional manuscript reviewers. The content of Immunome Research will remain largely the same as before with the major focus being on research reports and reviews. However, I am also hoping to increase the number of topical article types including Editorials, Commentaries and Meeting Reports. The opportunity to publish these types of articles was somewhat restricted under the BioMedCentral system but should now flourish with APC being waived on these types of commissioned articles. Similarly, to encourage the submission of original research reports and reviews, APC will be maintained at levels considerably

below those that would have applied had the journal remained with BioMedCentral.

Henceforth, the types of articles that will be published by Immunome Research will include **Research Reports:** reports of data from original research.

Reviews: comprehensive, authoritative, descriptions of any subject within the scope of the journal.

Commentaries/Editorials: short, focused and opinionated articles on any subject within the scope of the journal. These articles are usually related to a contemporary issue, such as recent research findings. These articles are usually written by opinion leaders that have been invited by the Editorial Board

Database: describe a new database or a substantial improvement of an existing database.

Meeting reports: These are a short description of a conference that the author has attended. It is usually best for the article to be published as soon after the meeting as possible, and should focus on the key developments presented and discussed at the meeting. These articles are usually commissioned but reports and suggestions may also be submitted for the Editor's consideration

Methodology articles: present a new experimental method, test or procedure. The method described may either be completely new, or may offer a better version of an existing method.

Software: describe the source code for software applications, tools or algorithm implementations. Typically, an archive of the source code of the current version of the software should be included with the submitted manuscript as a supplementary file.

Peer review policies for the re-launched Immunome Research journal will remain unchanged. The Editor-in-Chief and Section Editors will continue to screen submitted manuscripts to ensure they are within the scope of the journal and meet minimum standards to warrant review. The manuscript will then be sent to a minimum of two independent reviewers selected with the assistance of the subspecialty editors. All Immunome Research articles are listed in PubMed immediately upon acceptance (after peer review), and are

covered by PubMed Central, CAS and Scopus. Articles in Immunome Research should be cited in the same way as articles in a traditional journal. Manuscripts should be submitted electronically to Immunome Research using the online submission system found at www.immunome-research.net. Full details of how to submit a manuscript are given in the instructions for authors on the website. As previously, Immunome Research is committed to ensuring peer-reviewed biomedical research is open access which means it is freely and universally accessible online, it is archived in at least one internationally recognised free access repository, and its authors retain copyright, allowing anyone to reproduce or disseminate articles, according to the Immunome Research copyright and licence agreement. Immunome Research's articles will continue to be archived in PubMed Central, the US National Library of Medicine's full-text repository of life science literature, and other relevant digital archives.

In the 5 years since the founding of Immunome Research the concept of open-access has taken off, assisted in no small part by new requirements from public funding agencies including the US National Institutes of Health that funded research must be made freely publicly accessible within a maximum of one year from the date of publication [17]. This, plus the move from predominantly paper-based to web-based publishing, and the lower costs of establishing a new journal in the new age of electronic publishing, has meant that thousands of online scientific journals have sprung up virtually overnight. No doubt some of this has been driven by scientists wanting to create new avenues to publish their work, and some by entrepreneurs wishing to cash in on the financial success of the likes of the founder of BioMedCentral who was reportedly in the sale to Springer able to cash out their investment in the tune of tens of millions of dollars. Whilst the lowering of barriers to entry to electronic publishing has reduced the power of the traditional publishing houses and has provided scientists with many more options to publish their work, there is the concern that is now too many journals and that an undue focus of these new journals on generating revenues through article publishing

charges will result in a diminution of publishing standards and thereby an avalanche of low quality papers. Also, it is likely that in such a competitive and overcrowded market many new journals will quickly fail and cease to exist, to the potential detriment of those authors who have published articles in them. Nevertheless, despite these reservations, we have entered a brave new world of scientific publishing that is not going to go away. As scientists we should support such new publishing paradigms, if only because in the long run electronic open-access publishing is the clear future of all scientific publishing except maybe for a few prestigious subscription journals with sufficient size to maintain paper-based complemented by electronic formats. Established open-access journals such as Immunome Research have been around long enough now to prove their ability to survive and to help support the research community they were built to serve. APC are necessary in open-access publishing but they should not be used to exploit authors to generate excessive profits for publishers. Hopefully, Immunome Research can help provide leadership by setting modest APC and focussing on the most important aspect of scientific publishing, namely the promotion of scientific research. As Editor-In-Chief, I trust that the re-launched Immunome Research is able to continue to serve the immunomics research community and help them to take this successful and flourishing field of scientific endeavor to ever-greater heights.

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