About us

Europe PMC is a free life science and biomedicine information resource centered on the research literature. Our mission is to build open, full text scientific literature resources and support innovation by engaging users, enabling contributors, and integrating related research data.

Key facts about Europe PMC

• One site, one search, worlds of content: Europe PMC provides free access to 27 million peer-reviewed scientific journal articles indexed by PubMed, as well as over 4 million full text articles, and a further 5 million other records, including biological patents. A unified search across abstracts and full text articles makes it easier to discover relevant science. To support those users who require machine-to-machine, programmatic access Europe PMC provides a number of web services.

• Take credit for your work: claim articles to your ORCID and enjoy immediate benefits, such as an open Author Profile with your publication record and citation graph.

• Explore the data behind the paper: Europe PMC links the publication text to more than 55 million public data resources in databases like the European Nucleotide Archive, UniProt, PDBe, InterPro, IntAct, ArrayExpress, ChEBI, and many more. Browse annotations like genes, diseases, or protein-protein interactions with SciLite text-mining tool.

• Track publication impact: Europe PMC’s citation network allows you to find out who cited whom and view most cited papers. Discover alternative metrics, plain language summaries, post-publication peer reviews, and more through External Links.

• Find out who is being funded, to do what, and for how much: use the Grant Finder tool to get searchable access to more than 57,000 grants awarded by the Europe PMC funders.

• Europe PMC is supported by 27 European research funders who each expect their researchers to make their articles open access.

Follow Europe PMC on Twitter or the blog to hear about new developments, or join the Google group for news about Europe PMC web service releases.
Introduction

2016 was a very busy and fruitful year for Europe PMC. This report highlights the main developments:

- Launch of SciLite Annotations
- Grant Finder tool
- Site improvements – Solr migration, etc.

The most significant development in 2016 was the launch of the SciLite community annotation platform. SciLite is a tool that exposes text-mined annotations and provides deep links to related data. It supports scientists and database curators in their literature research and presents an opportunity for text miners to showcase their work to a wider public.

In 2016, 426,000 full text articles were added to Europe PMC, of which a significant proportion are free to read and reuse. Further service statistics are given at the end of this report.

The Europe PMC website performance was excellent overall throughout the year, and the continued delivery of this core requirement remains our top priority.
Engaging Europe PMC user community

Our challenge was to reach users who range from researchers to public, funders to librarians, all of whom want access to high quality research information, but may have vastly different motivations for looking. Here are a few ways we engaged with Europe PMC users:

**Social media**

Find out more: Twitter | Blog

During 2016 the Europe PMC blog covered subjects ranging from open author profiles to integration with Wikidata to the SciLite annotation tool. We addressed some of your questions about Europe PMC, and described how you might use a new feature to make it relevant to you. It’s been great to see how some of these use cases have been taken up, and to learn of other ways that you are using Europe PMC. On Twitter, we gave you search tips to improve your experience of Europe PMC and followed latest developments in the Open Access field.

**Out and about**

We enjoyed meeting you and understanding your experiences of Europe PMC. This helps us to ensure future developments meet your expectations. We visited you at various events, including the Biocuration and the Intelligent Systems for Molecular Biology (ISMB) conferences. We can provide a selection of branded collateral for conferences and events.

We organized engagement workshops for the Europe PMC Funders to support the engagement activities of our members. They are also an opportunity to reflect on the place of Europe PMC in the wider research landscape.

**User research**

Building on our user research work in the previous year, usability tests and interviews were carried out with 22 participants, to gather feedback and improve the features and functionality of Europe PMC. A significant user research project was started in November 2016. The aim of the project is to gain a more in-depth understanding of how researchers and curators search for life sciences literature and to inform a redesign of key pages and functionality on Europe PMC.

**SciLite**

Europe PMC now has a text-mining tool called SciLite to support scientists and database curators in their literature research. SciLite highlights text-mined biological terms on scientific articles in Europe PMC. SciLite makes scanning articles quicker and easier. Annotations are also linked to data records, to help with evidence searches.
SciLite provides annotations for core named entities (e.g. gene/protein names, or chemicals), biological events (e.g. phosphorylation), as well as biological functions (e.g. gene function). A feedback mechanism on the interface allows users to report problematic annotations, or endorse good annotations.

SciLite is set up as a community platform that accepts contributions from text-mining groups, who wish to share annotations with the wider public by publishing them on full text articles on the Europe PMC website. SciLite is based on the Web Annotation Data Model and is open to any text-mining group. So far, SciLite operates on articles with a CC-0, CC-BY or CC-BY-NC licence, and has contributions from the National Centre for Text Mining (NaCTeM), the Bibliomics and Text Mining group at the University of Applied Sciences, Geneva, as well as from the core Europe PMC text-mining pipeline; the number of contributors is set to grow in 2017. All the full text annotations are available via a SPARQL API. For more information about SciLite please refer to Venkatesan A, Kim JH, Talo F et al. SciLite: a platform for displaying text-mined annotations as a means to link research articles with biological data [version 1; referees: 3 approved with reservations]. Wellcome Open Res 2016, 1:25 (doi: 10.12688/wellcomeopenres.10210.1)
Grant Finder tool

The new Grant Finder tool has replaced the Grant Lookup tool to allow users to search and browse grant data in the context of articles that have been linked to those grants. The search provides an auto-suggest option to help find PI names, ORCIDs, affiliations, funders and grant IDs. There are now crosslinks between grants listed on abstract pages and grants in the Grant Finder. It is easy to distinguish between active and inactive grants in search results. The new interface uses the public GRIST API, originally developed by JISC.

Almost 5000 grants have been added by Europe PMC funders in 2016 and the database now includes more than 55,000 grants, crosslinked to the articles they supported.

Europe PMC and ORCID

The ORCID Foundation’s goal is to remove the confusion around the identity of researchers and scholars by maintaining a registry of unique identifiers. In this way linked research outputs can be associated unambiguously with their authors.
The table below shows the increase in the use of ORCID iDs in Europe PMC since the launch of the ORCID claiming tool in July 2013. ORCID iDs are associated with articles in Europe PMC using the ORCID claiming tool, and also by getting automatic updates from the ORCID Foundation.

<table>
<thead>
<tr>
<th>ORCIDs in Europe PMC</th>
<th>End 2013</th>
<th>End 2014</th>
<th>End 2015</th>
<th>End 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. unique ORCID iDs matched with an article:</td>
<td>40,000</td>
<td>96,000</td>
<td>200,000</td>
<td>380,000</td>
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<tr>
<td>No. articles that have an associated ORCID iD:</td>
<td>582,000</td>
<td>1,044,000</td>
<td>2,158,000</td>
<td>3,529,000</td>
</tr>
</tbody>
</table>

### External links service

This year External Link providers and other collaborators, who link out from the content in Europe PMC to their resources, can now display an image alongside the link itself. You can spot the Altmetric badge summarizing online activity around the scholarly content under the “External Links” tab, the CitePeer icon links to alternative reference lists on the “Related Articles” tab, and the Impactstory logo can be found on the Author Profile pages. Every researcher who has claimed a paper in Europe PMC to their ORCID record has a public author profile on Europe PMC, and the number of author profiles has been growing steadily.

### Other new features

This year we have migrated the Europe PMC Plus manuscript submission service from JISC to the EMBL-EBI. We installed the GRIST grants database (developed by JISC) that contains information on all the grants awarded by Europe PMC funders. This information is important to us to authorize the upload of manuscripts from grant holders, but we also make the data discoverable on the Europe PMC website via the Grant finder, or programmatically via the GRIST API.

We have also made improvements to Europe PMC search indexing after migrating the Europe PMC infrastructure to a state-of-the-art Solr-based indexing system. Solr is an open source project with many contributors, which provides immediate benefits. It allows for updates to be live within minutes and significantly increases the speed with which we can return search results. As well as these basics, Solr comes with some useful built-in features, such as filters, auto-suggestions, and snippets, which we plan to start exploiting next year.
Other search improvements introduced in 2016 include the addition of reverse sort orders for “date” and “times cited”, so that you can see results ranked by “oldest first” or “least cited”, and the ability to search by embargo date (as well as their display on abstract pages).

### Service statistics

<table>
<thead>
<tr>
<th>Description</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract records added</td>
<td>1226973</td>
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<tr>
<td>Full text records added</td>
<td>426340</td>
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<tr>
<td>Number of Europe PMC articles cited (cumulative approx.)</td>
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<tr>
<td>Number of author manuscripts published to Europe PMC</td>
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</tr>
<tr>
<td>Number of grant-article associations made in Europe PMC plus</td>
<td>5305</td>
</tr>
<tr>
<td>Number of grant-article associations imported into Europe PMC from Researchfish, funders and Europe PMC plus</td>
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</tr>
<tr>
<td>Number of new grants made by Europe PMC funders added to Europe PMC plus</td>
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</tr>
<tr>
<td>Number of new principal investigator accounts created in Europe PMC plus</td>
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</tr>
<tr>
<td>Number of cumulative tweets/followers</td>
<td>2695/2803</td>
</tr>
<tr>
<td>Number of blogs</td>
<td>9</td>
</tr>
</tbody>
</table>
Funded by

Delivered by

Europe PMC development is led by the European Bioinformatics Institute (EMBL-EBI).