

## XSEDE Scientific Impact Metrics for the Period between July 1, 2016 to Sept 30, 2016

Fugang Wang, Gregor von Laszewski

Sep 30, 2016

Technical Report, Indiana University, Bloomington, IN

### 1.1. Scientific Impact Metrics (SIM)

This appendix presents the current Scientific Impact Metrics data as of end of September 2016. This is part of the *XD Metrics Service (XMS)* (previously *NSF Technology Audit Service (TAS)*) effort.

We are currently working on adapting the data and results structure so most of these results would be available as display via XDMoD in future.

#### 1.1.1. Summary Impact Metrics

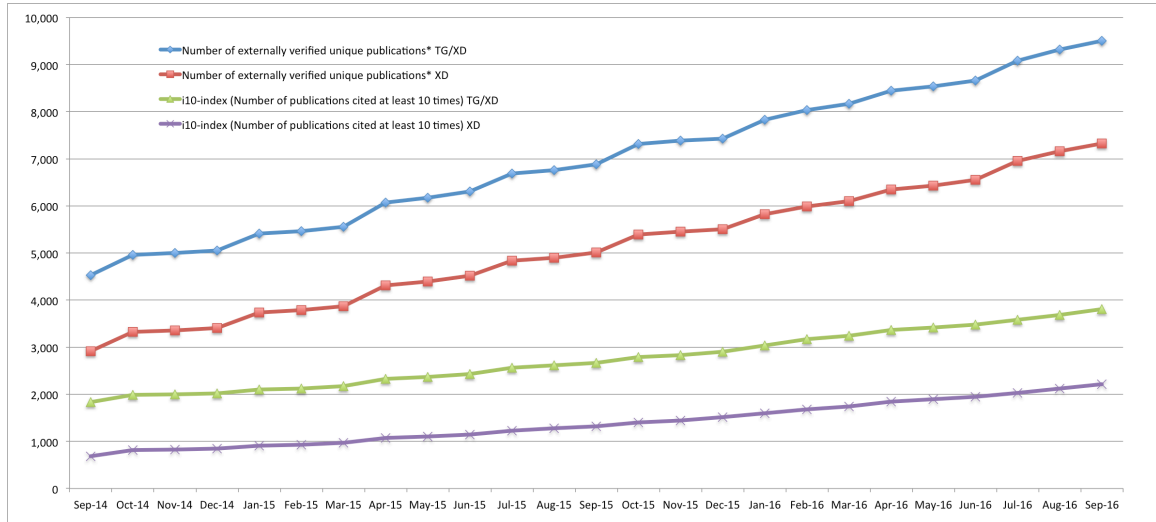
Table SIM-1 shows the essential scientific summary impact metrics as of the end of Q3 2016. The increasing values for each metric are listed in the table indicating the changes during the last quarter. By calculating such metrics periodically we can show the trends, as depicted in Figure SIM-2 and Figure SIM-3. Both show steadily increasing trends.

Table SIM-1: Overall Scientific Impact Metrics Data

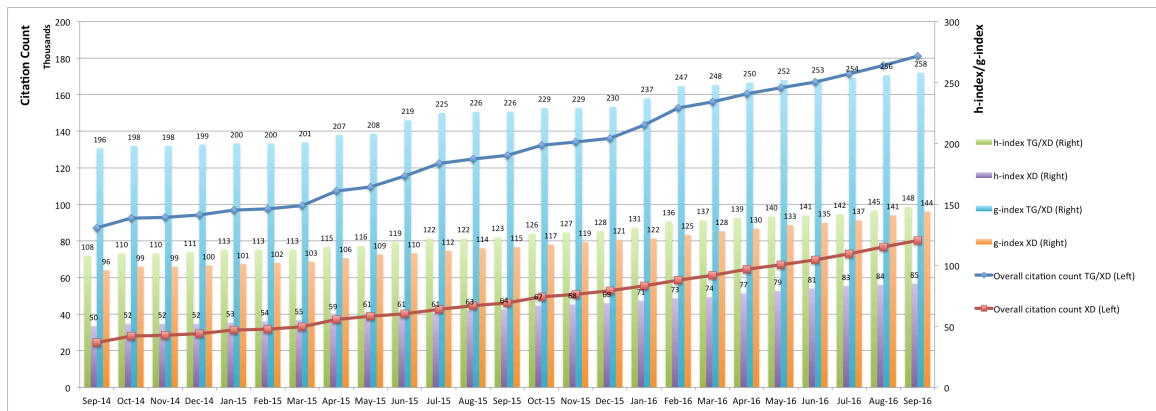
	Number of externally verified unique publications*	i10-index (Number of publications cited at least 10 times)	Overall citation count*	h-index	g-index
Since 2005 (TG+XD)	9,505	3,805	181,148	148	258
Since 2011 (XD)	7,320	2,216	80,368	85	144
Change from last quarter (TG+XD)	+843	+324	+14,162	+7	+5
Change from last quarter (XD)	+765	+268	+10,753	+4	+9
* Data updated as of Sept 30 <sup>th</sup> , 2016.					

### 1.1.2. Historical Trend

Figure SIM-2 and SIM-3 show the increasing monthly trend regarding publications, citations, and other impact metrics such as H-Index and G-Index. Both suggest the increasing impact of XSEDE during the past year, based on verified unique publication count; citation count; h-index and g-index. Note that either h-index or g-index is hard to increase significantly from a value that was already very high, due to the intrinsic definition and calculation method, but we still observe improvements.



*Figure SIM-2. Counts of all externally verified publications for TG/XD (since 2005) and XD (since 2011) and of those being cited at least 10 times (i10-index). Note the hike in the beginning of each quarter (October, January, April, July) due to the publication submission for the quarterly XRAC meeting review.*



*Figure SIM-3. Accumulated citation count (line, left axis) as well as h-index and g-index metrics (bar, right axis) for TG/XD (since 2005) and XD (since 2011).*