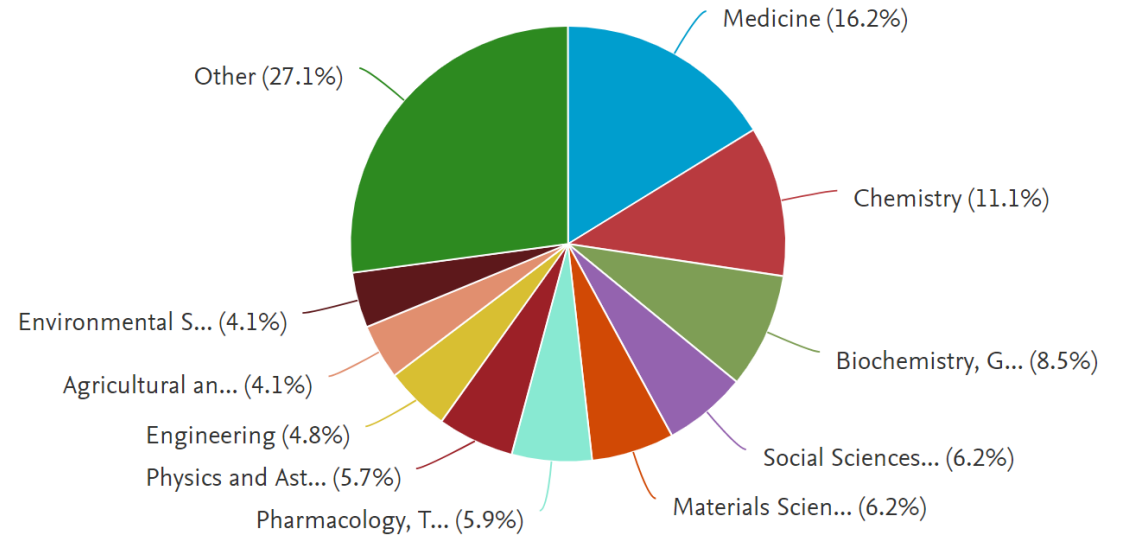
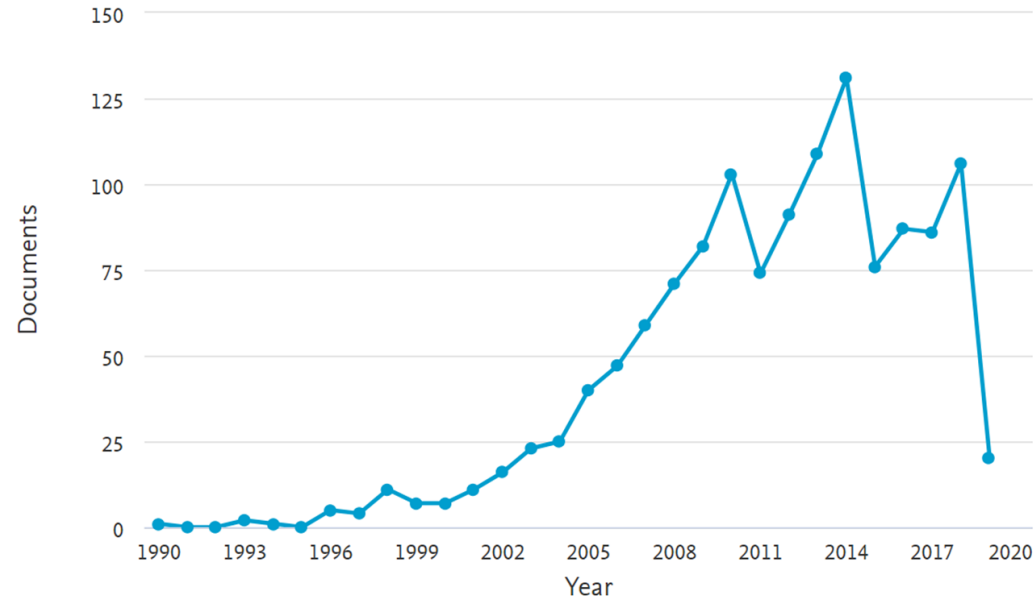


Documents by year



What behind numbers?

A Snapshot of Scientific Research Production at
Al-Quds University

Presented by Elham Kateeb, Dean of Scientific Research

Background

The mission of Al-Quds University is to lead high-quality research that provides solutions to important problems in the Palestinian society, contributes to the Palestinian economy and adds to the global knowledge.

Objectives:

This presentation will discuss how successful was AQU in achieving its mission in using research to serve the community



Methods

Data from Scopus database about AQU scientific research production –scientific articles- over the period of 2010-2018 will be accessed and analyzed to assess the main areas and types of research conducted at AQU

To identify the indicators used in the literature to measure the societal impact for research

To discuss what indicators available at AQU to measure societal impact of our research:

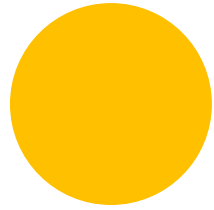
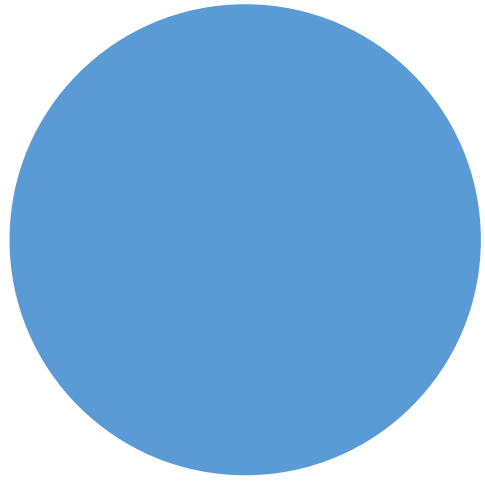
Research quantity

Research quality

Research themes

To discuss what data we need to collect to measure other indicators identified to assess the societal impact of AQU research

Expected Outcomes



How research impacts society?

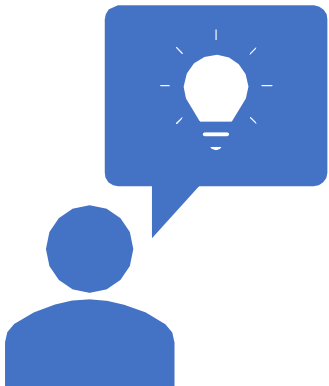
From the literature !

Impact and effects of Academic Research

- Researchers are usually encouraged to consider how their work is connected with wider issues, extending beyond academia
- It is important to ensure that both policy-makers and the general public are aware of the effects and impact of research and the potential it carries.
- Effective science advocacy requires comprehensive data on where and how the knowledge and skills generated in research can be put to good use.



Roles of Research in Society:



Scientific research is expected to contribute to society, for example, in the following issues:

- **Human understanding and world view**
- **Wealth and prosperity**
- **Basis for decision-making**
- **Practice development**

Impact and effects of Academic Research



A study done by the Academy of Finland, to evaluate contributions of research to society in four research fields:

- Medical engineering and health technologies
- Materials science and technology
- Ecology and evolutionary biology
- History

came up with some important impacts that research need to influence in the society:

Important
impacts that
research need
to influence in
the society

- **Impact on health and wellbeing**
- **Impact on public institutions and services**
- **Impact on the economy and economic renewal**
- **Impact on the environment and natural resources**
- **Impact on human capacities and culture**

Impact on health and wellbeing

- Reduced morbidity or illness; improved physical or mental health
- Reduction of social problems; improved social welfare
Improvement of healthcare
- Management or prevention of health-related risks



Impact on public institutions and services

- Preparation of policy-making, legislation or other regulations
- Renewal of teaching curricula, educational planning
- Improvements related to other public services (e.g. public security, transportation, social services)
- Improved function of public institutions



Impact on the economy and economic renewal

- Improved business capability or competitiveness of individual companies
- Improved prospects for employment or expert work
- New business activity; attraction of investments
- Development or renewal of the economic environment; adaptive capacity of the economy



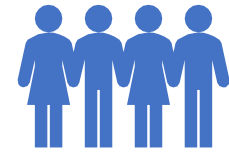
Impact on the environment and natural resources

- Reduction of environmental stress; improved state of the environment
- Sustainable use of natural resources; protection of biodiversity
- Sustainability of the built environment, infrastructures or land use
- Management or prevention of environmental risks; improved ecological resilience



Impact on human capacities and culture

- Strengthening civilization, citizen participation or civil activity
- Protection of cultural diversity; improved cultural interaction or coexistence
- Development of environments supporting creativity, experimentation and learning
- Development of national or international community



Main routes
to impact:

Transfer of research results

Cooperation and interaction

Proficient people



How to measure the societal impact of Academic Research?

Do we have such measures here at AQU?

Indicators to measure the societal impact of research

Richard Smith. Editorial: Measuring the social impact of research Difficult but necessary. BMJ 2001;323:528

Content analysis:

- Professional publications
- Treatment guidelines and protocols
- Policy documents
- Cochrane library
- Textbooks
- Teaching materials
- Lay publications

Indicators to measure the societal impact of research

Software

- Citation analysis
- Scientific publications cited in documents in the previous slide

Products

- Healthcare technologies and services
- Instruments, program, methods for assessment or implementation of care

Indicators to measure the societal impact of research

Publicity

- Presentations for a non-scientific audience
- Fact sheets
- Public media
- Internet Memberships
- Member of a committee issuing a policy document or a treatment guideline
- Member of advisory committee

Teaching

- Contributions to education (learning based on research)

However, those indicators are rarely used and more number-based (publications analysis) indicators are usually used to assess the merit of research impact

Research as an indicator of University Rank!

Top World University Ranking Systems use research as the main ranking indicator and sometimes the only one.

Stated purpose and use of world top ranking system:

- Research Performance: CWUR, Leiden, SCIMago, Times, RUR, Shanghai, URAP, UMR, Webometrics
- Research Quality: Times, CA, UMR, U
- Research Innovation and Economic Impact CA

Vernon MM, Balas EA, Momani S (2018) Are university rankings useful to improve research? A systematic review. PLOS ONE 13(3): [E0193762](https://doi.org/10.1371/journal.pone.0193762)

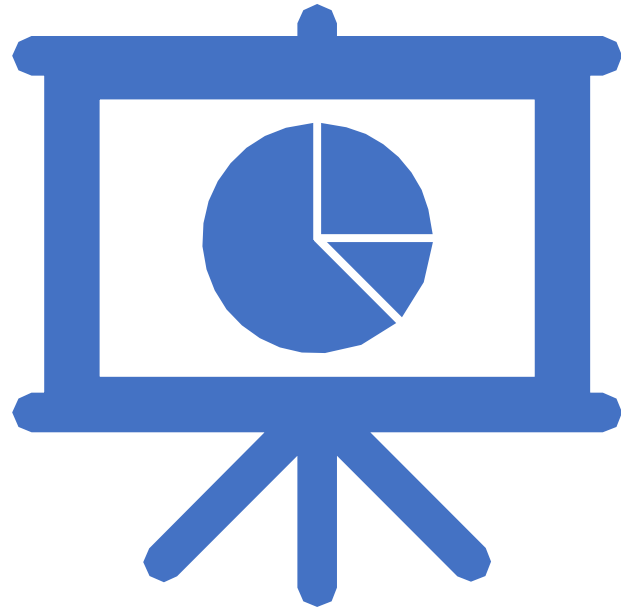
<https://doi.org/10.1371/journal.pone.0193762>

Extra indicators

MoHE Proposed Criteria for Ranking

- Number of publications in Scopus per full-time faculty over the past 5 years
- Number of citations in Scopus per full-time faculty over the past 5 years
- Number of collaborated research articles over the past 5 years
- Number of patents registered locally and internationally

What measures do we have here at AQU?

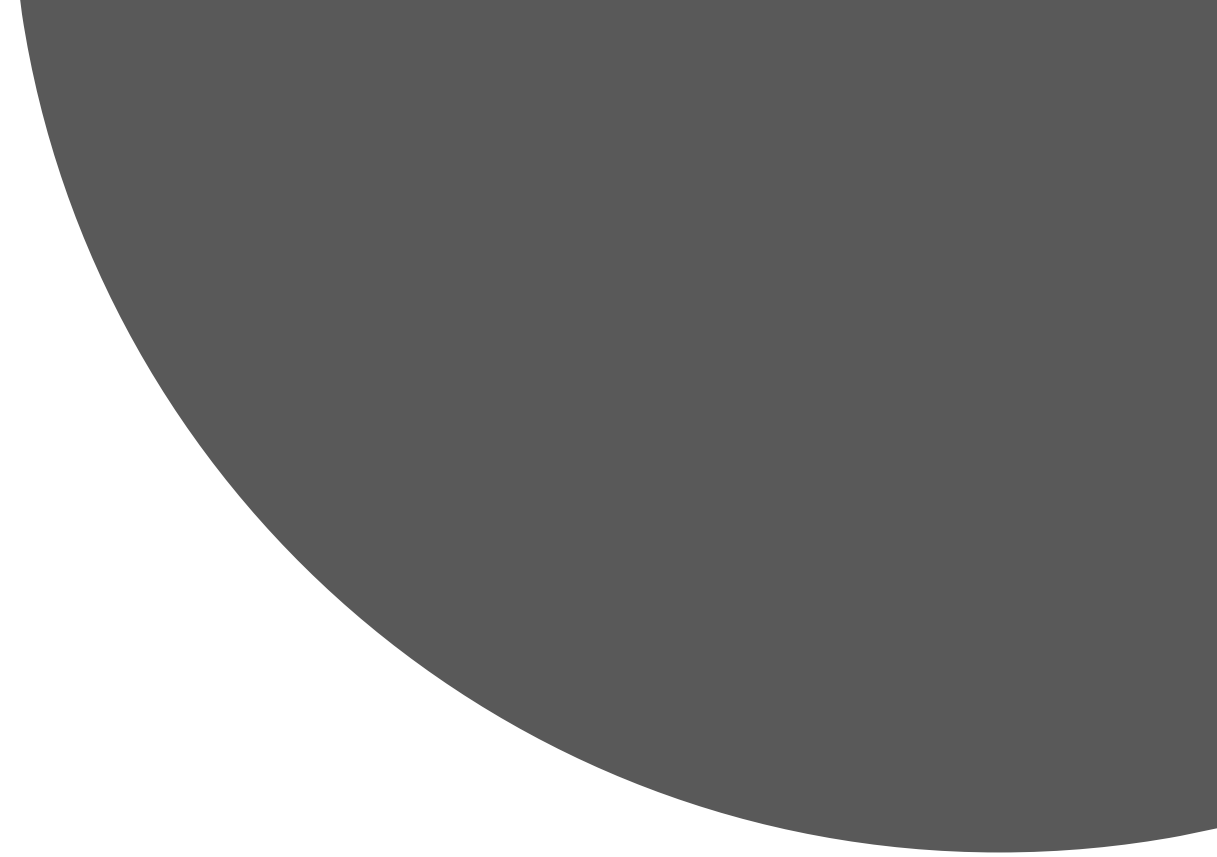
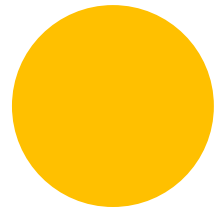
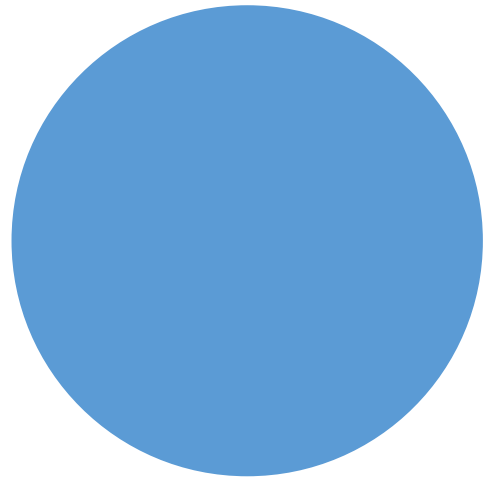


- No data available to use in measuring the societal impact of AQU research except data on AQU publications (as an indicators)
- In this presentation, we will use Scopus as a credible database to collect info about AQU publications
- Why Scopus? Used by QS, MoHE, Credible and prestigious

What is Scopus?

- Scopus is the largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings.
- Delivering a comprehensive overview of the world's research output in the fields of science, technology, medicine, social sciences, and arts and humanities
- Scopus features smart tools to track, analyze and visualize research.
- Scopus offers free features to non-subscribed users, and is available through Scopus Preview.

<https://www.elsevier.com/solutions/scopus>



Al-Quds University Publications Analysis

Using Scopus Database

Scopus Documents Analysis 2010- 2019



1294 documents



306 open access, others 988



Number of authors : 539



1047 articles



76 conference papers



59 reviews



48 Book chapter

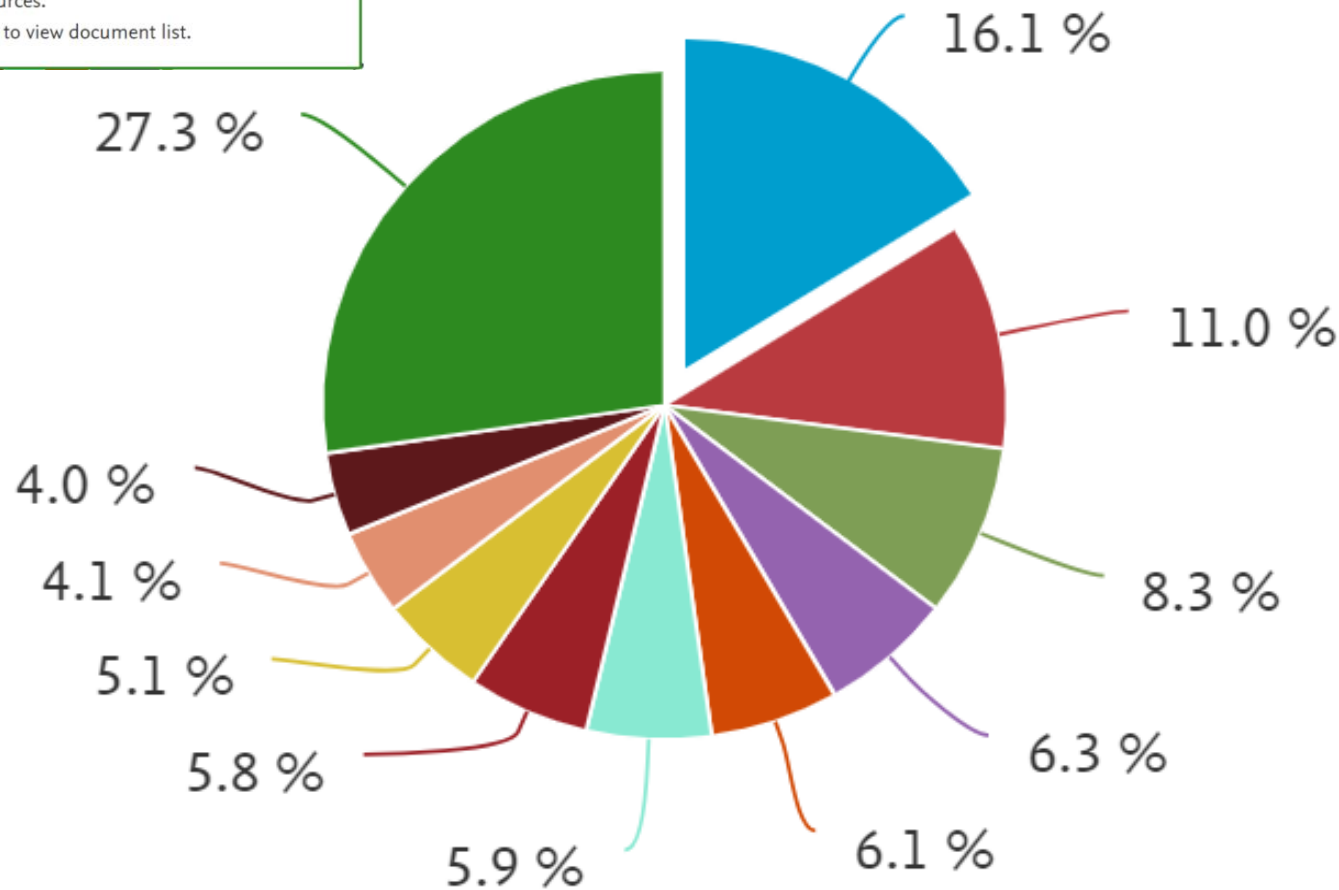


14 editorial

Subject Area

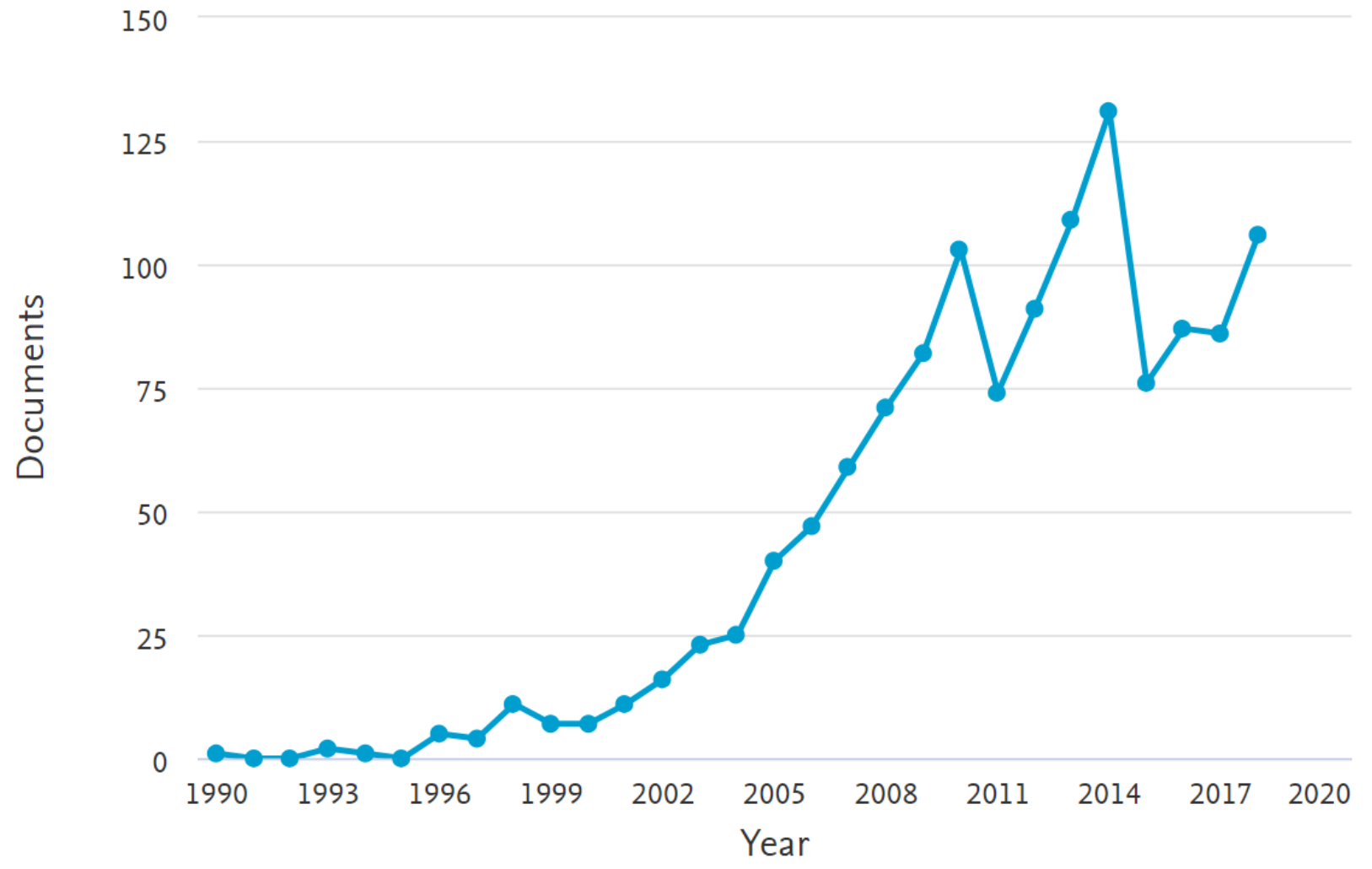
- Other
- Computer Science - 87 documents
 - Chemical Engineering - 82 documents
 - Immunology and Microbiology - 81 documents
 - Arts and Humanities - 61 documents
 - Mathematics - 55 documents
 - Earth and Planetary Sciences - 46 documents
 - Health Professions - 35 documents
 - Neuroscience - 33 documents
 - Nursing - 29 documents
 - Psychology - 29 documents
- Plus 7 additional sources.
Click chart segment to view document list.

- Medicine
- Chemistry
- Biochemistry, Genetics and Molecular Biology
- Materials Science
- Social Sciences
- Physics and Astronomy
- Pharmacology, Toxicology and Pharmaceutics
- Engineering
- Agricultural and Biological Sciences
- Environmental Science
- Other



Publications
Numbers
Source:
Scopus

Documents by year



Citation History

Date range: 2015



to 2018

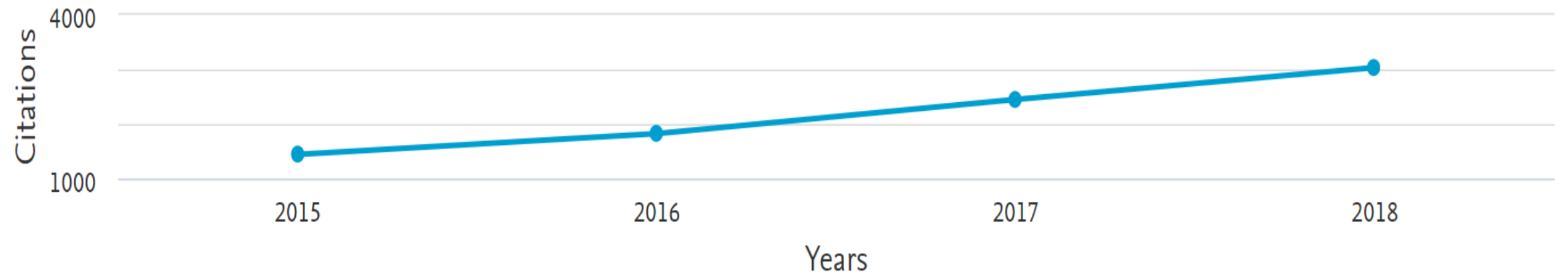


Exclude self citations of all authors



Exclude citations from books

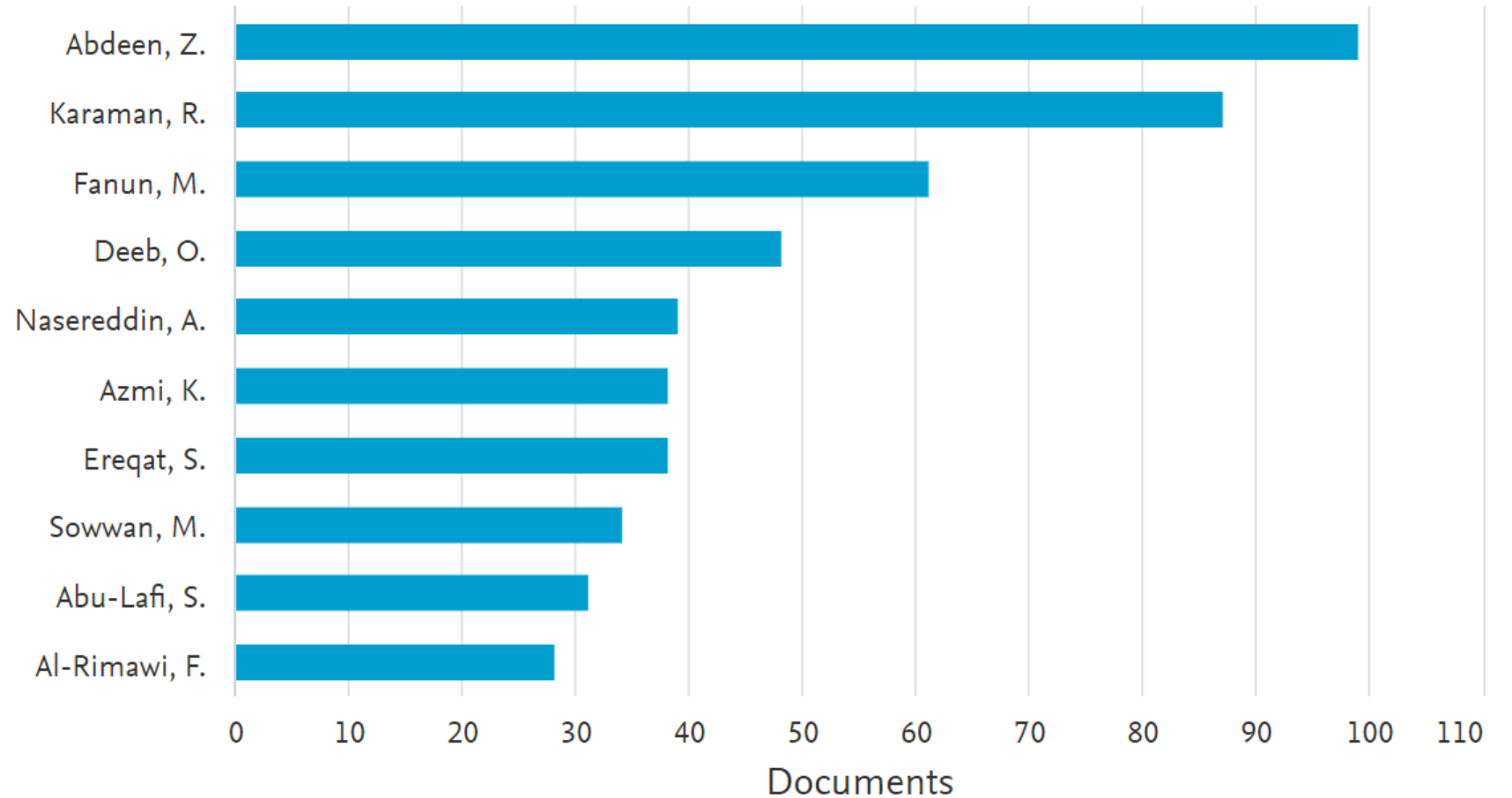
Update



Most Published Authors

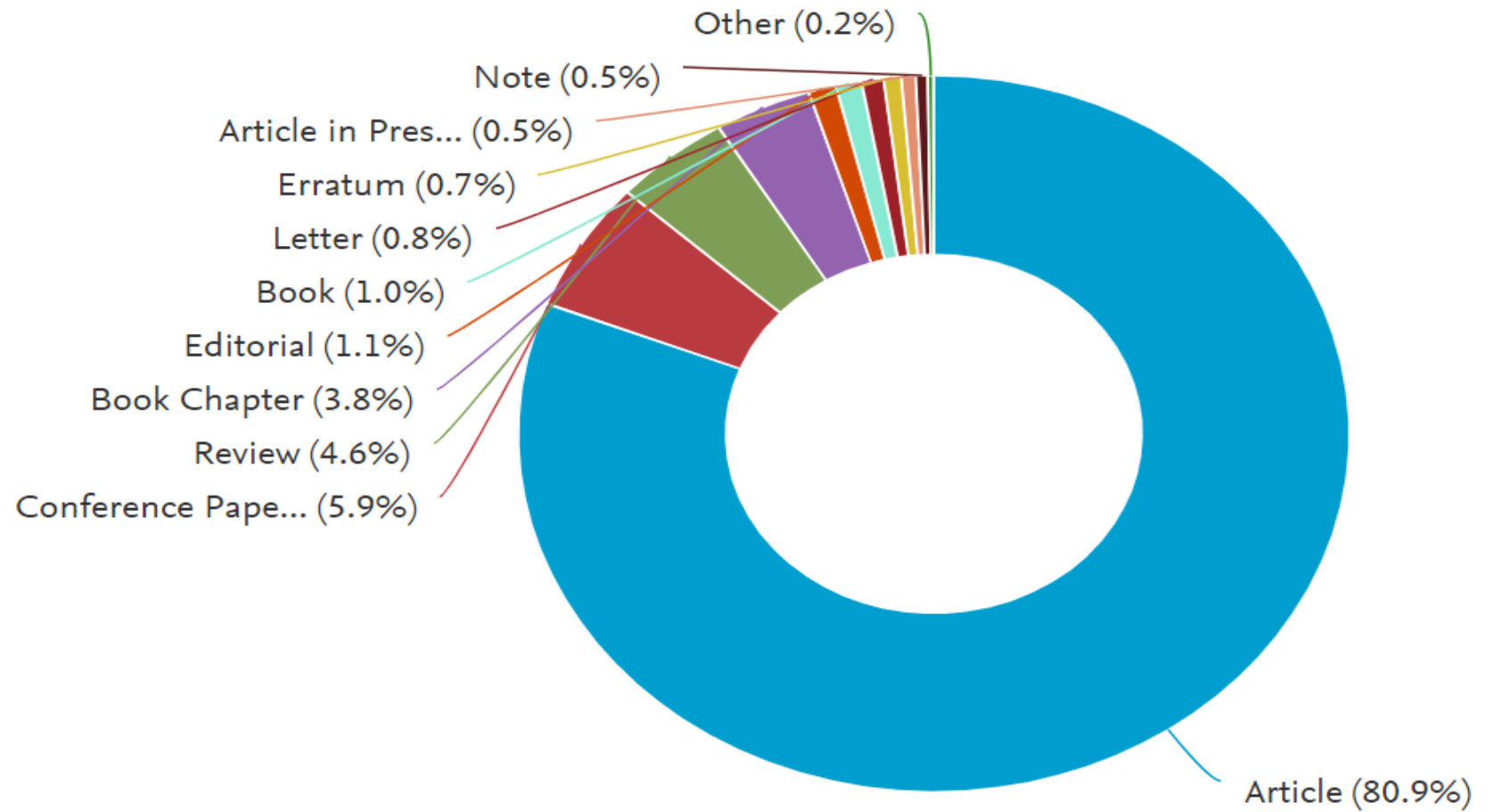
Documents by author

Compare the document counts for up to 15 authors



Types of Publications

Documents by type





Collaborated
Institutions

UNIVERSITY OR INSTITUTION	NUMBER OF PUBLICATIONS
An-Najah University	50
Birzeit University	46
University degli studi della Basllcata	46
Jordan University JUST	32
Charite Berlin	27
Arab American University	25
KU Leuven	23
Lunds Universitet	22
Rutgers University-Newark Campus	19
The University of Jordan	12
University of Manchester	11
Al-Quds Open University	8

Patents: more direct measure of impact?

- 5 Patents found in Scopus
- From 2010-2016
- 3 registered in United States Patent & Trademark Office
- 1 registered in European Patent Office
- 1 registered in World Intellectual Property Organization
- All of these patents are for the same research group and AQU is not the leading organization
- At least there is another one registered at the Palestinian Commerce Ministry



MoHE Indicators

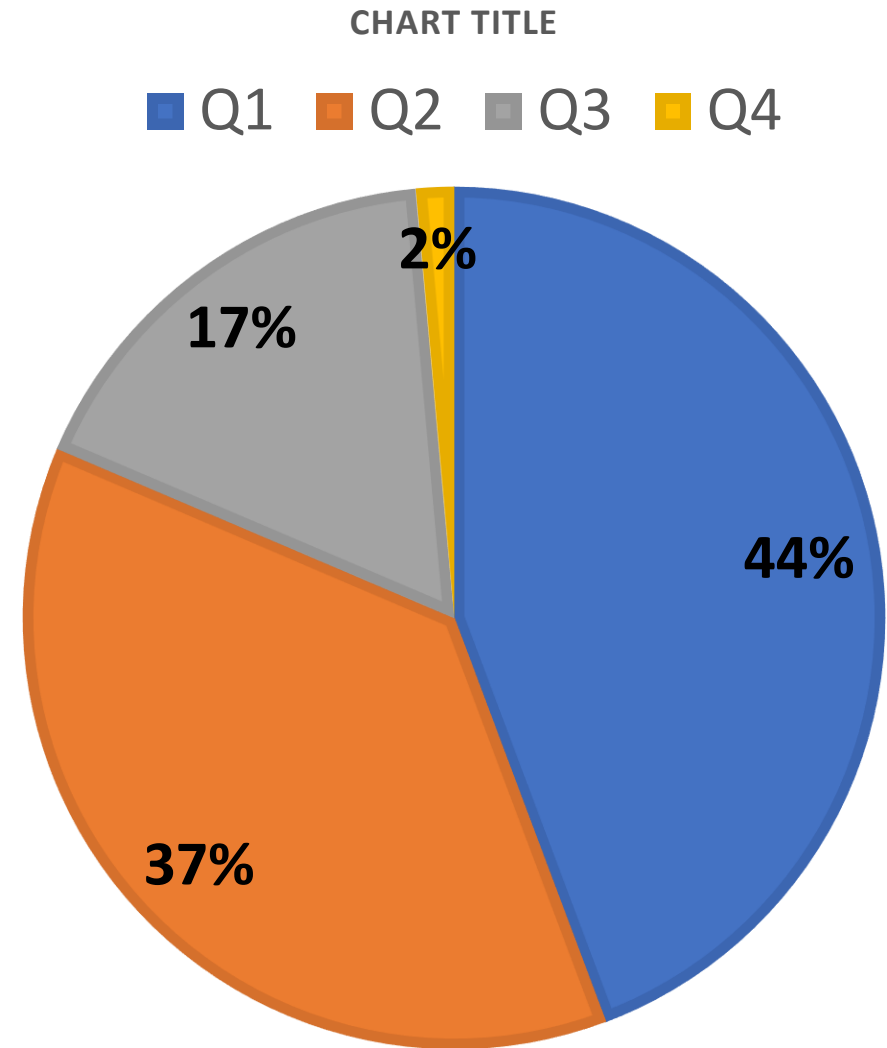
Indicator	AQU numbers
Number of articles resulted from international collaboration in 2017	93
Number of citations for the top 10 researchers in Google Scholar	18,535
Number of citations for the top 10 researchers in social sciences in social sciences in Google Scholar	1,430
Number of articles published in (not indexed in Scopus) journals during 2017	71
Number of researchers who have H-index less than 3 according to Google Scholar	34



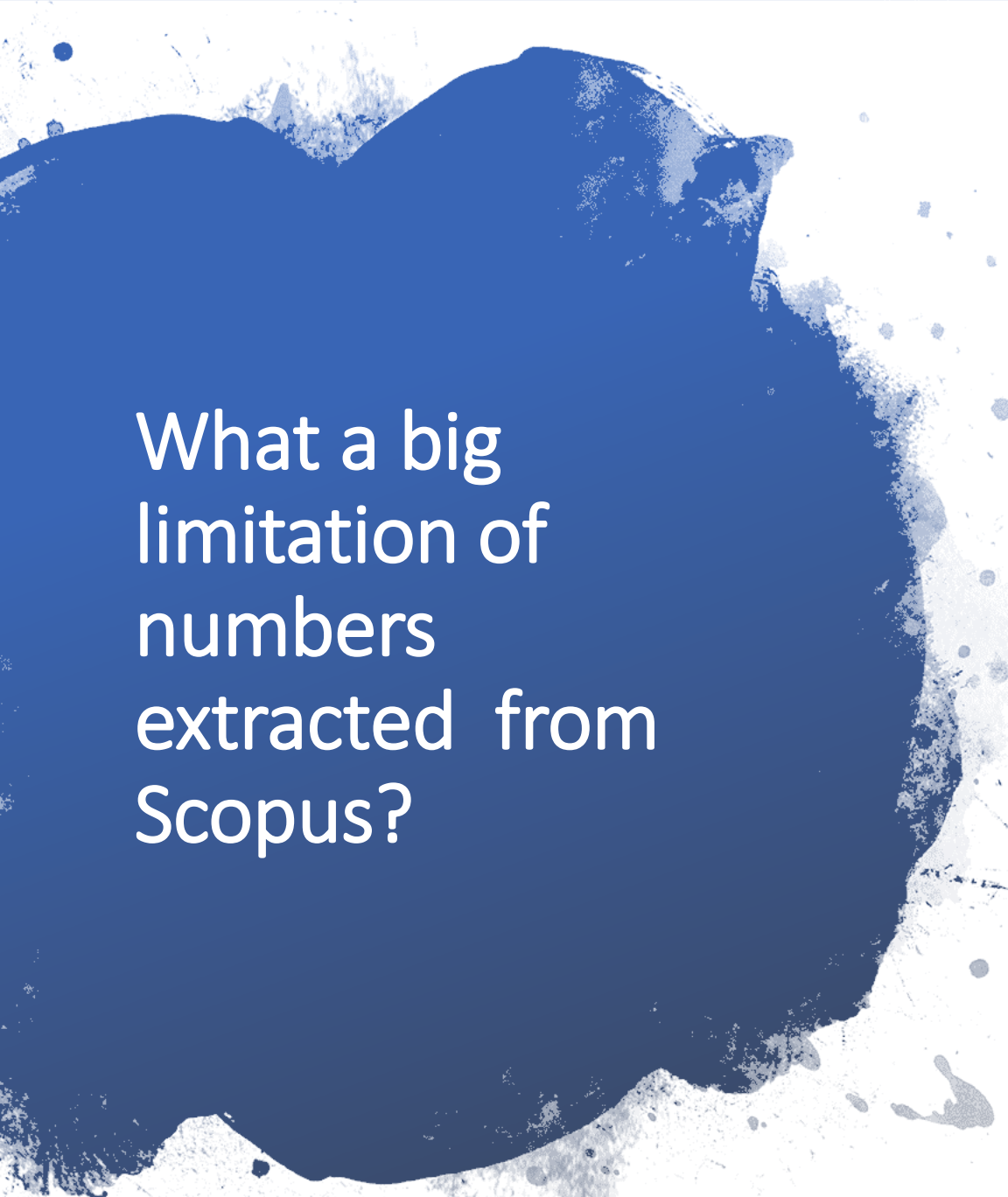
An example: 2018 Publications Scopus
Analysis

2018 in Scopus

- 108 publications:
 - ✓ 80 articles
 - ✓ 11 conference proceedings
 - ✓ 6 in press
 - ✓ 8 reviews
 - ✓ 2 Notes
 - ✓ 31 articles had their first author from Al-Quds University



Medicine	<u>52</u>
Biochemistry, Genetics and Molecular Biology	<u>21</u>
Pharmacology, Toxicology and Pharmaceutics	<u>13</u>
Computer Science	<u>11</u>
Engineering	<u>11</u>
Physics and Astronomy	<u>11</u>
Chemistry	<u>10</u>
Environmental Science	<u>8</u>
Social Sciences	<u>8</u>
Arts and Humanities	<u>7</u>
Nursing	<u>7</u>
Health Professions	<u>6</u>
Agricultural and Biological Sciences	<u>5</u>
Immunology and Microbiology	<u>5</u>
Chemical Engineering	<u>4</u>
Energy	<u>4</u>
Neuroscience	<u>4</u>
Psychology	<u>4</u>
Dentistry	<u>2</u>
Materials Science	<u>2</u>
Earth and Planetary Sciences	<u>1</u>
Multidisciplinary	<u>1</u>
Veterinary	<u>1</u>



What a big
limitation of
numbers
extracted from
Scopus?

Limited data available on
Research Production in Arabic
and in Humanities!

Publications in Arabic 2015-2018 from SR annual reports (25 papers)

Number of articles published in Palestinian Universities journals	Number of publications published in non-universities Palestinian Journals	Number of publications published in Arab Universities Journals	Number of publications published Arab non-universities journals	Other (Conference papers)
--	--	---	--	----------------------------------

3 (12%)

4 (16%)

10 (40%)

6 (24%)

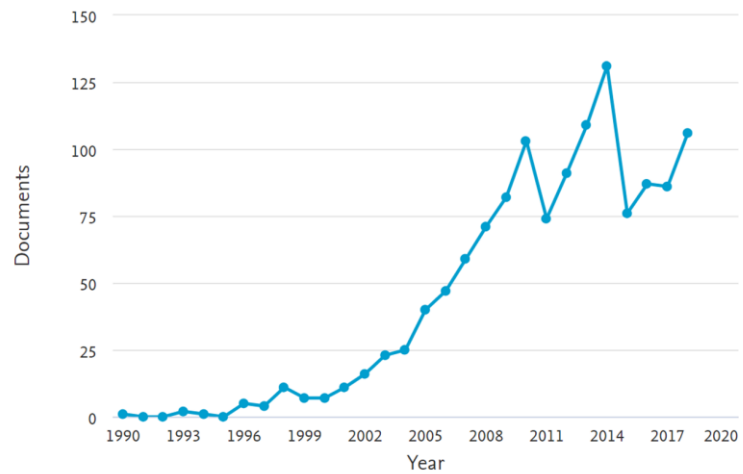
2 (8%)

How we are doing compared to others?

Variables	Al-Quds University	An-Najah National University	Birzeit University
Number of Documents	1295	1694	1407
Hi index	52	46	67
Total citations	17610	14356	32800
Google Scholar participation	133	401	141
The citations of the top 10 researchers in Google Scholar after omitting the highest one	13,906	30,680	44,974

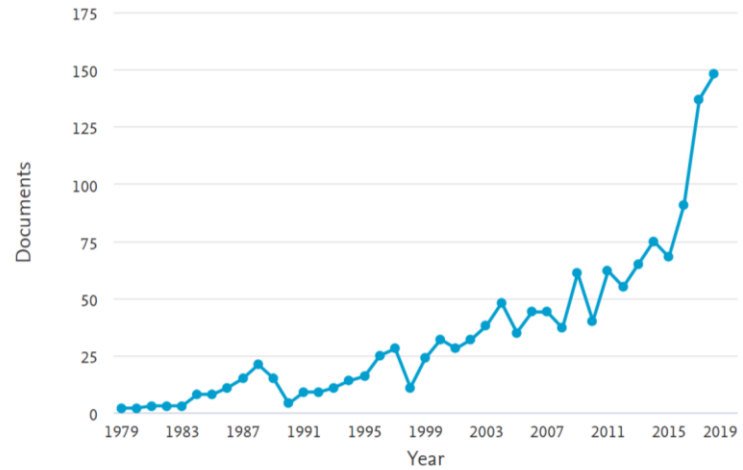
How we are doing compared to others?

Documents by year



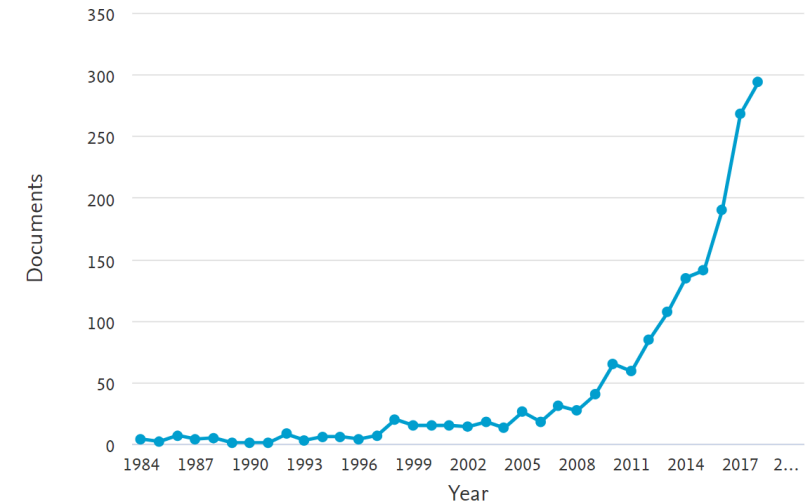
Al-Quds University

Documents by year



Birzeit University

Documents by year

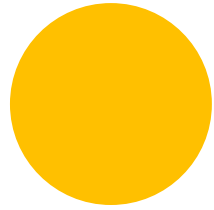
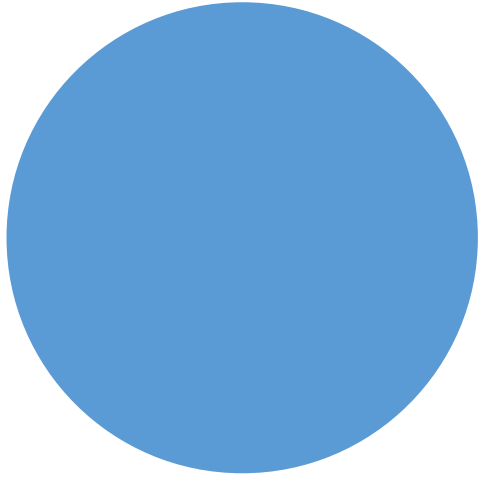


An-Najah National University

Conclusions!

- Quality indexed publishing
- Open access publishing
- Avoid fake or predatory publishers
- Link all your research efforts to Palestinian community challenges and problems when formulating research questions
- Focus on research that strengthens the AQU capacity for research and involve students
- Develop indicators to measure the impact of research on the local community or collect data using tools such as “DSpace” to use already validated indicators of societal impact of research.
- Document all AQU research in the Digital Repository and link them to researchers’ profiles on the AQU website, research clusters and AQU news University website
- Researchers’ visibility is important for the researcher, the institution and for Palestine





Thank you

