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# Bio-Bibliometric Portrait of Dr. Tasawar Hayat

*A Distinguished Professor of Mathematics*

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## ABSTRACT

**Aim:** This article aims to present the bio-bibliometric portrait of the research productivity created by Dr. Tasawar Hayat, a Distinguished Professor of Mathematics at Quaid-e-Azam University, Pakistan.

**Methodology:** The retrospective method has been applied in this study to assess the attributes of bibliographical records of the documents produced by Dr. Hayat. Elsevier's Scopus database was used to extract the required dataset on the 28<sup>th</sup> of October 2020. The required features of the dataset of all types of published papers were downloaded for analysis. The five bibliometric indicators of the dataset were evaluated, the publications and citations ratio by year, segregation of documents by subjects, frequently used channels for publications, distribution of research collaboration by country and top-ranked co-authors. Microsoft Excel was used for the tabulated pattern and graphic interpretation, and SPSS software was used to calculate the SEM of publications and citations.

**Results:** A total of 2,374 documents were found on the credit of Dr. Hayat on the data freezing date. Although there has been a fluctuation in the number of papers by year, overall there is a remarkable growth. The impact of quality is reflected by the number of citations that recorded 29.28 citations/doc. In the subject categories, *Physics & Astronomy*, *Engineering* and *Mathematics* were found the favorite areas of research. *Results in Physics* and *Journal of Molecular Liquids* are listed in top the two most preferred channels of communication having the impact factor 4.019 and 5.065 with 119 and 105 publications respectively. Pakistan has been on the first ranked in the affiliated country statement of Dr. Hayat and his co-author, followed by Saudi Arabia (n=1921), China (n=704), United States (n=106) and United Kingdom (n=96). Dr. Ahmed Alsaedi of King Abdulaziz University, Saudi Arabia has emerged a strong co-author in more than half of the documents (n=1324; 55.77%).

**Conclusion:** The author with fertile ideas and a creative mindset provide a strong foundation to his profession and affiliated institution. The bio-bibliometric study of the productive scientist encourages the peers and junior to follow in his footsteps. Behind the massive research success of Dr. Hayat, along with his hard work and dedication, the contribution of his co-author is also mattered. But Dr. Hayat has been playing the role of captain for his research team.

**Keywords;** Bio-bibliometric; Dr. Tasawar Hayat; Pakistan; Research productivity, Scopus

## INTRODUCTION

The venture of undertaking research has been imperious for the progress of knowledge and sharing the outcome of the study with the rest of the world is a central part of the research cycle (Naseer & Mahmood, 2009; Haq & Al Fouzan, 2017). The continuous research activities are vital for the sustainable development of the country. The appraisal study on the academic career and research productivity of legendary individual has always been one of the inspiration sources for

contemporary fellows and future generations (Kousar & Mahmood, 2010). Usually, it has been observed that, the achievements of the scholarly person are being presented on his retirement or written in an obituary statement after his death, unfortunately (Koganuramah, et al. 2004). The objective evaluation and highlighting of the merits of scholarly publications during the life-time of the researcher has been considered as a token of acknowledgment and appreciation of his/her efforts (Haq & Ahmad, 2019). The distinct characteristics of the individual are to be propagated, to be much-admired by people in the appraisal writing.

The bio-bibliometric study covers the biographical career and bibliographical description of the scholarly publications and achievements of the single researcher. The expression of *Bio-Bibliometric* is coined by Sen and Gan (1990) as “*the quantitative and analytical method for discovering and establishing functional relationships between bio-data and biblio-data elements.*” Some other terms such as scientometric portrait, information profile and informetrics portrait have been used to fulfill the same purpose (Sen & Gen, 1990). The bio-bibliometric studies help to understand the growth of publications over the period, research trends, citation impact, authorship pattern, most-preferred sources of publications, collaborative authors, institutions and countries of the researcher (Mahmood & Rehman 2009). As the growth of research publications is aggregating, similarly, the demand for appraising the research attributes has also been receiving acceptance from academia and policy-makers (Javed, Ahmad & Khakro, 2020). The outcomes of bibliometric studies provide the statistical portrait of published documents, which further support to articulation of the research strategy, for allocation of grants and provide a baseline for promotion/rewards (Haq, Elahi, & Dina 2019)

Dr. Tasawar Hayat is a distinguished national professor in the department of Mathematicians at Quaid-e-Azam University (QAU), Pakistan. He is born at Khanewal on January 1<sup>st</sup>, 1969. He received his education from his native town. He passed the Intermediate exam in the Pre-Engineering Group in 1986. He obtained a Bachelor of Science degree from QAU and secured a silver medal in 1988, subsequently M. Sc. in 1992 and a Ph.D. in Mathematics under the supervision of Dr. Saleem Asghar in 1999 from the QAU and the same year he received Prof. Abdus Salam Prize in Mathematics. He joined QAU as a junior research assistant in 1994, became a senior research assistant in 1995 and promoted as a lecturer in 1998. He went to Germany for Post-Doc study and became Alexander Von Humboldt (AVH) fellow at the Technische Universität Darmstadt during 2001-2002. Dr. Hayat returned home after the successful completion of his research and joined QAU as Assistant Professor in 2005, now he is Distinguished Higher Education Commission (HEC) National Professor. His areas of research are Wave Motion, Acoustic, Electromagnetic and Elastic waves, Fluid Mechanics, Relativity and Biomechanics. He has been showered by number of awards and honour at the national and international level. The government of Pakistan awarded him Hilal-e-Imtiaz in 2019, Tamgha-i-Imtiaz and Sitara-i-Imtiaz in 2005, M. Raziuddin Siddiqi Gold medal from Pakistan Academy of Science in 1999 and Khwarizmi International Award from Iran in 2004 and many others. According to the QAU website, he produced 26 M. Phil and 44 Ph. D. researchers and numbers of M. Phil and Ph. D. projects are still going on (Quaid-e-Azam University, n.d.). Dr. Hayat has also been offering his teaching and research services to King Abdulaziz University, Saudi Arabia since 2011.

The study aims to assess the various bibliometric indicators of scholarly documents produced by Dr. Tasawar Hayat during 26 years from 1995 to 28<sup>th</sup> October 2020 as reflected in the Elsevier-Scopus database.

## REVIEW OF RELATED LITERATURE

The distinguished personalities of any area of knowledge with exceptional research output have been selected to analyze bibliometrically. Some studies highlighted the most productive author as Mahmood (1996) reviewed the 97 papers by Pakistani Library and Information Science (LIS) professional published in international journals from 1947 to 1995 and Dr. Syed Jalaluddin Haider was found a most prolific author with 12 publications. Anwar and Saeed (1999) studied the 251 LIS items produced by Pakistan from 1969 to 1995 and Dr. Anis Khurshid was found a most productive author with 22 publications. Shadab (2009) evaluated 557 items published in *Pakistan Library and Information Science Journal* (PLISJ) from 1968-2007 and Dr. Nasim Fatima emerged as the topmost author with 37 papers. Naseer (2015) assessed the 5,195 items on LIS published inside Pakistan from 1947 to 2008 and Dr. Anis Khurshid was found on the top with 88 items. Haq and Fouzan (2019) study on 369 papers published in PLISJ from 2008-2017 revealed that Dr. Rubina Bhatti was found a most contributing author with 31 publications. Siddique et al. (2020) analyzed the 1,305 papers on LIS produced by Pakistani authors from 1957-2018 and exposed that Dr. Khalid Mahmood has been on the top with 133 publications, followed by Dr. Kanwal Ameen and Dr. Rubina Bhatti with 92 and 88 publications respectively. These studies only identified the productive authors in the field of LIS in Pakistan.

There is a lot of bio-bibliometric studies have been carried out after 1990 in the world. In the Pakistani context, numbers of studies were found, two studies on Dr. Khalid Mahmood, and one each on Dr. Anis Khurshid, Dr. Syed Jalaluddin Haider, Dr. Kanwal Ameen, Dr. Mumtaz Ali Anwar and Dr. Ata-ur-Rehman.

Although some studies pointed out the research contribution of Dr. Syed Jalaluddin Haider and Dr. Anis Khurshid but no bio-bibliometric studies were carried out on these authors in their life-time. The first bio-bibliometric study was conducted by Mahmood and Rehman (2009) on publication output of Dr. Anis Khurshid after his death. Dr. Khurshid was the only LIS professional in Pakistan that was honored with the Pride of Performance Award. He produced 182 writing items during the period of 47 years (1957-2003), consisted of 94 articles published in 41 journals, 40 part publications, 27 reports and edited 21 books, and maximum of 17 items were published in the year 1981. About three-fourth (74.73%) of his total writings were published in the English language while the rest of the documents (25.27%) were published in the Urdu language. In the analysis of authorship pattern, 172 (94.51%) items were published as a solo-author and 10 (5.49%) were the result of collaborative efforts. The second study of this type was done on the scholarly contribution of Prof. Dr. Syed Jalaluddin Haider, this study was also done after his death (Kousar & Mahmood 2010). Prof. Haider was LIS professional and former head, department of LIS, Karachi University. The study examined the characteristics of his 96 documents published in 41 years from 1968 to 2008. His scholarly contribution consisted of one book, 75 articles published in 36 journals, eight part publications, six biographies, one editorial and two books edited. Almost half of his work was published in the last 12 years and 2007 was found a most productive year with 11 publications. The majority of documents (96%) were published in the English language and 87% of the papers were published by a single author. One-third percent of his total work was published in *Pakistan Library and Information Science Journal* (PLISJ).

Qayyum and Naseer (2013) changed the trend and conducted a bio-bibliometric study on the living LIS legend, Dr. Khalid Mahmood, Chairman Department of Information Management, and now Dean, Faculty of Economics and Management Sciences, University of the Punjab. This study presented the various bibliometric indicators of 115 items produced by Dr. Mahmood during the time of 19 years from 1993 to 2011. The majority (n=54; 47%) of the papers were published during the last four years of study and 86% of the documents were published as research articles,

followed by conference papers, and books. The bulk of writing (n=108; 94%) was published in the English language and *PLISJ* was found preferred source of publications with 11 papers. Sixty-one percent of the writings have published in international sources and 51 papers were appeared in the sources that were published in two countries United Kingdom (n=31) and the United States (n=21). About sixty-two percent of the items were published in collaborative research patterns while 38% of the work was published as solo author. In 2018, Dr. Mahmood celebrated the publications of 100 documents in the Scopus indexed journals/sources, Haq (2018) analysis the characteristics of these 100 papers, published in 23 years. First Scopus indexed paper was published in 1996 and the highest number (n=12) of papers were published in 2010. The analysis of the document's type showed that the majority of documents were published as research articles (n=80) followed by review papers (n=17), two conference papers and one book chapter. Twenty-one documents were written as single authors, while the rest of the papers (n=79) were the result of research collaboration with 41 authors and the maximum of 17 papers were written in collaboration with Dr. Farzana Shafique. These 100 documents were published in 34 sources and the highest numbers of papers were published in *Library Philosophy and Practice*, *Library Review* and *Information Development*.

Haq and Ahmad (2019) scrutinized the bio-bibliometric parameters of Dr. Kanwal Ameen's publications. She is now Vice-Chancellor of the University of Home Economics, Lahore and former Chairperson, Department of Information Management, University of the Punjab. The study analyzed the 137 items of Dr. Kanwal, which was published in 27 years from 1991 to 2017. Her items consisted of articles (n=80), conference papers (n=34), book chapters (n=15), books (n=4) and book reviews (n=3). The highest numbers of items (n=16) were published in the year 2017. More than two-third (70%) of her items were published internationally, while 30% published in local sources. Seventy percent of her items were the result of research collaboration with 28 co-researchers and the maximum 17 items were published with Dr. Nousheen Fatima Warriach.

Naveed (2018) reviewed the publication output of 187 professional items contributed by Dr. Mumtaz Ali Anwar, former Professor, Department of Information Management, University of the Punjab. These papers were produced during the span of 57 years from 1964 to 2017. These documents have been divided into 16 types, and the majority of documents constituted of journal articles (n=82; 43%), followed by conference papers, and research reports, etc. One hundred and thirty-four (72%) items were written by a single author pattern while 53 items were the result of research collaboration. His 82 articles published in 24 journals and 29 articles were published in 5 local journals. He collaborated with the 42 co-researchers and seven publications each was written with four different researchers.

Dr. Atta-ur-Rehman is an eminent scientist and distinguished academician in the field of Chemistry in Pakistan and he also served as Minister of Science and Technology, Government of Pakistan during 2000-2002. Anjum and Ahmad (2011) evaluated the scientometric analysis of his scientific publications. He produced 766 items in 42 years from 1966 to 2007 and a maximum, 67 papers were published in 2005. About 11% of the publications were written as a single author and 137 (18%) were written in a two-author pattern. He served as a mentor or first author in more than half (n=444; 58%) of the papers and all 766 papers were published in 113 journals/sources. Fourteen percent of his papers were published in local journals and the highest number of papers (n=93) were published in *Photochemistry*.

## RESEARCH METHODOLOGY

This retrospective study has been conducted on the publications output of Dr. Tasawar Hayat, Distinguished Professor of Mathematics, Quaid-e-Azam University, Pakistan. The dataset was

collected from the Elsevier's Scopus database on the 28<sup>th</sup> of October 2020. The Scopus database organized the documents of Dr. Hayat under the Scopus Author Identifier No. 8856998000. The following bibliometric indicators of the dataset have been downloaded, analyzed and presented graphic and tabular patterns.

- a. Distribution of publications and citations by year
- b. Segregation of documents by subject categories
- c. Proffered channel of communications/journals
- d. Topmost research collaborating countries
- e. Top-ranked co-authors, their affiliation and number of documents

## LIMITATIONS

The dataset is limited to the Scopus Index documents of Dr. Hayat readily available on the date of retrieval.

## RESULTS

Dr. Tasawar Hayat has contributed 2,374 documents with a mean ratio of  $91.31 \pm 21.99$  during 26 years from 1995 to 28 Oct 2020 as reflected in the Elsevier Scopus database. There were 61 (2.56%) documents published in the early eight years between 1995 to 2002. The number of publications has increased remarkably, after completing the post-doc from Germany in 2002. There were 441 (18.57%) documents published in the next nine years from 2003 to 2011 and extraordinary growth of documents ( $n=1872$ ; 78.85%) has been recorded during the last nine years from 2012 to 28<sup>th</sup> of October, 2020. A more than three-fourth percent of the total work was published in the last nine years and a maximum of 377 documents were published in the year 2017.

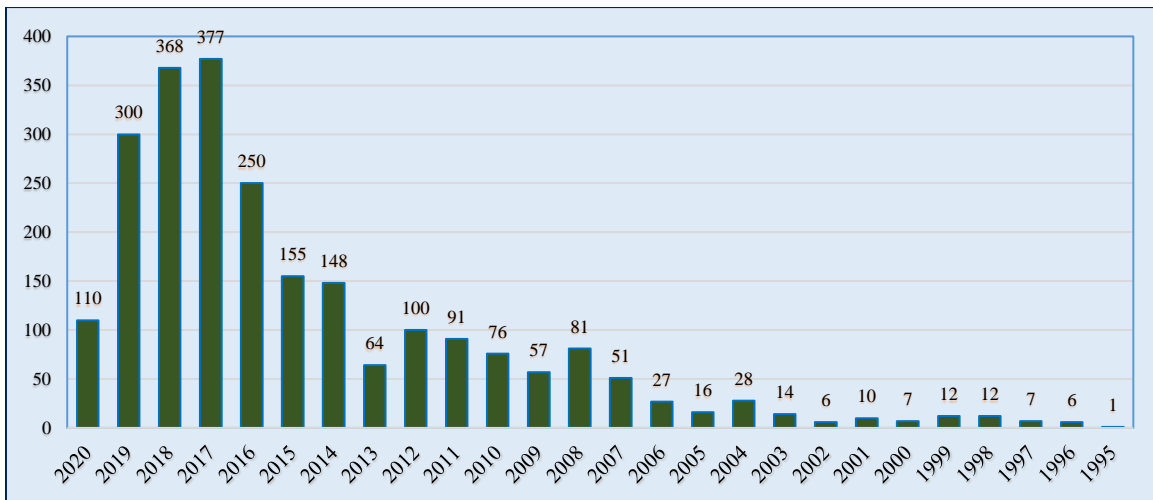
These publications received 69,501 citations with a mean ratio of  $2673.12 \pm 699.18$ . Sixty-one documents published in the first eight years of the study received 833 citations with a mean of 13.65 citations/doc, while 441 documents published in the second phase (2003-2011) received 16,560 citations with a mean of 37.55 citations/doc. The documents published in the last nine years received 52,108 citations with a mean of 27.83 citations/doc. The citation analysis by year shows that 27 documents publications in 2007 gained maximum of 1,638 citations with an average of 60.67 citations per document and overall, all documents received 29.28 citations per document. (Table-1 and Figure-1)

**Table-1; Distribution of documents, citations and average citation per documents**

S. No.	Year	Publications	Citations	Citations/doc
1.	1995	1	10	10.00
2.	1996	6	11	1.83
3.	1997	7	106	15.14
4.	1998	12	3	0.25
5.	1999	12	108	9.00
6.	2000	7	82	11.71
7.	2001	10	271	27.10
8.	2002	6	242	40.33
9.	2003	14	461	32.93
10.	2004	28	1429	51.04

11.	2005	16	559	34.94
12.	2006	27	1638	60.67
13.	2007	51	2572	50.43
14.	2008	81	3694	45.60
15.	2009	57	1722	30.21
16.	2010	76	2019	26.57
17.	2011	91	2466	27.10
18.	2012	100	3240	32.40
19.	2013	64	1534	23.97
20.	2014	148	4239	28.64
21.	2015	155	5089	32.83
22.	2016	250	11497	45.99
23.	2017	377	13390	35.52
24.	2018	368	9090	24.70
25.	2019	300	3718	12.39
26.	2020	110	311	2.83
	<b>Total</b>	<b>2374</b>	<b>69501</b>	<b>29.28</b>
	<b>Mean</b>	<b>91.31</b>	<b>2673.12</b>	
	<b>SD</b>	<b>112.14</b>	<b>3565.11</b>	
	<b>SEM</b>	<b>21.99</b>	<b>699.18</b>	

**Figure 1: Distribution of documents by year (n=2,374)**



All the publications of Dr. Hayat were distributed into 21 subject categories. The Scopus database assigned one and sometimes more than one subject category to one documents, so 5,540 subject categories have been assigned to 2,374 documents. There are nine areas of research having more than 100 documents each. The highest number of documents (n=1021; 18.42%) have been written on the subject of *Physics and Astronomy*, followed by *Engineering* (n=928; 16.75%), *Mathematics* (n=772; 13.93%), *Material Science* (n=458; 8.26%) and *Chemistry* (n=421; 7.59%).

A slightly less than two-third percent (n=3600; 65%) of the documents belong to the top five areas of knowledge. (Figure-2)

**Figure-2; Distribution of documents by subject category**

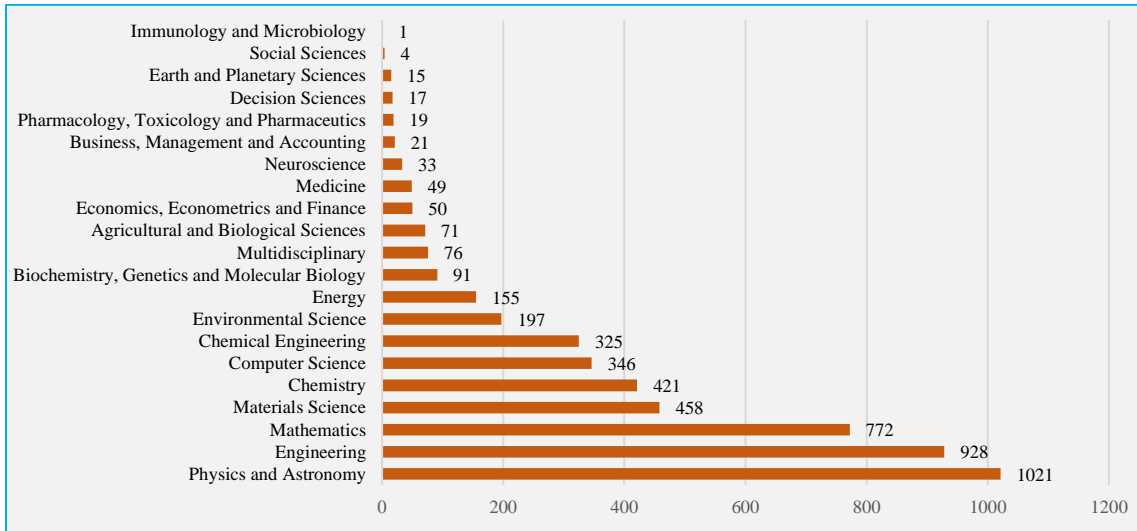


Table-2 illuminated the list of the 10 most preferred sources of publications, the journal *Results in Physics* has been in the topmost position with 119 documents followed by *Journal of Molecular Liquids* with 105 documents. These two journals have more than 100 publications each. *International Journal of Heat and Mass Transfer*, *International Journal of Numerical Methods for Heat and Fluid Flow* and *Applied Mathematics and Mechanics English Edition* comes on third, fourth and five positions with 80, 58 and 51 publications respectively. There are 60 journals having 10 or more than 10 documents each.

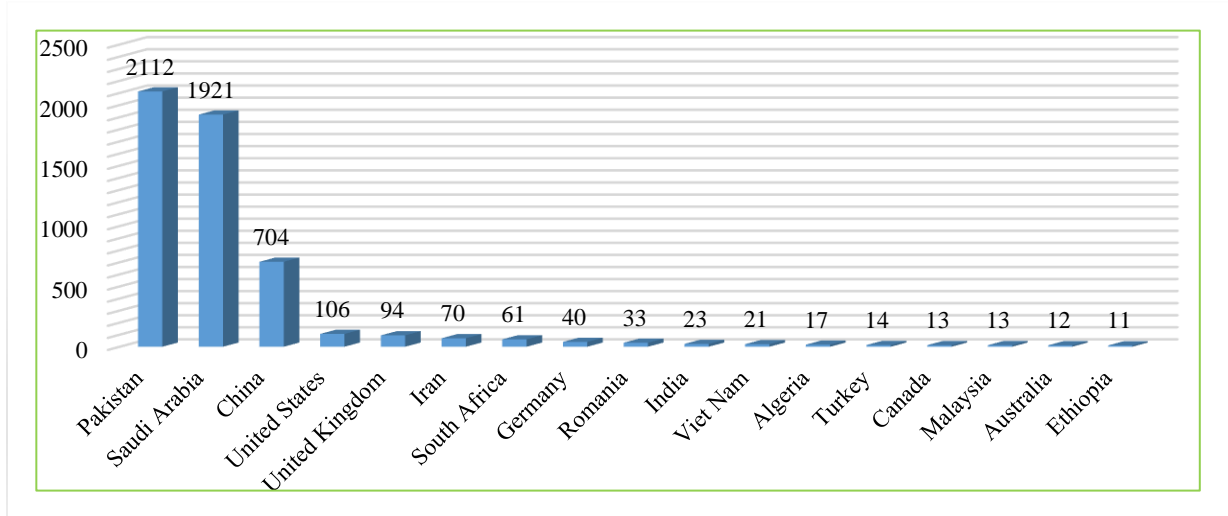
**Table-2; Top-10 most preferred sources of publication**

S. No.	Name of Journal	Documents published
1.	Results in Physics	119
2.	Journal of Molecular Liquids	105
3.	International Journal of Heat and Mass Transfer	80
4.	International Journal of Numerical Methods for Heat and Fluid Flow	58
5.	Applied Mathematics and Mechanics English Edition	51
6.	Plos One	50
7.	Zeitschrift Fur Naturforschung Section a Journal of Physical Sciences	47
8.	Physica a Statistical Mechanics and its Applications	44
9.	Chemical Engineering Journal	42
10.	Nonlinear Analysis Real World Applications	40

The analysis of the affiliated country statement in 2,374 documents revealed that Dr. Hayat and his collaborative authors belonged to 52 countries of the world. Pakistan, the home country of Dr. Hayat has been mentioned in 2,112 (87%) documents followed by Saudi Arabia (n=1921; 81%).



This shows the strong research ties of Dr. Hayat with the researchers of these two countries. China sands on the third rank with 704 documents, then United States and United Kingdom fall with 106 and 94 documents respectively. There are 17 countries with more than 10 documents while 35 countries have less than 10 documents each.



Dr. Hayat has collaborated with 1,547 co-authors belongs to 52 countries of the world. He is actively involved in research collaboration with the researchers of Pakistan, Saudi Arabia and China, so in the list of ten top-ranked co-authors, all belong to these three countries. It is surprising to note that more than half (n=1,324; 55.77%) of the total research productivity, Dr. Ahmed Alsaedi of King Abdulaziz University, Jeddah Saudi Arabia has emerged as a top co-author followed by Saleem Asghar of COMSATS, Pakistan with 232 publications. Amongst the top 12 co-authors, five belongs to Quaid-e-Azam University, Islamabad, three from King Abdulaziz University, Saudi Arabia; two each from COMSATS, Pakistan and North China Electric Power University, China.

Rank	Co-Authors	Affiliation	Documents
1.	Alsaedi, Ahmed	King Abdulaziz University, Saudi Arabia	1324
2.	Asghar, Saleem	COMSATS Institute of Information Technology, Pakistan	232
3.	Ahmad, Bashir	King Abdulaziz University, Saudi Arabia	166
4.	Khan, Muhammad Ijaz	Quaid-e-Azam University, Pakistan	158
5.	Shehzad, Sabir Ali	COMSATS University Islamabad, Pakistan	157
6.	Waqas, Muhammad	Quaid-e-Azam University, Pakistan	126
7.	Mustafa, Meraj	National University of Sciences and Technology, Pakistan	109
7.	Wang, Xiagke	North China Electric Power University, China and King Abdulaziz University, Saudi Arabia	109
8.	Muhammad, Tasser	Quaid-e-Azam University, Pakistan	97
9.	Qayyum, Sumaira	Quaid-e-Azam University, Pakistan	85
9.	Sajid, Muhammad	Quaid-e-Azam University, and PINSTECH, , Islamabad, Pakistan	85

10.	Wang, Xiangxue	North China Electric Power University, China	71
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## DISCUSSION

The scientists of Stanford University updated the list of top 2% scientists of the world (n=1,59,684) in all the branches of knowledge. Dr. Hayat stands on 6,542 position with 2,281 documents and he secured the CiteScore 4.5531. His documents are indexed in the category of *Mechanical, Engineering and Transport*. There are 92,645 total authors in this category and Dr. Hayat is holding the 5<sup>th</sup> rank, a respectable position in the global ranking. King Abdulaziz University, Saudi Arabia has been written in his affiliated status (Ioannidis, Boyack & Baas, 2020).

As per the Scopus database, Dr. Hayat is the most productive author in the country profile of Pakistan as well as Saudi Arabia. The bio-bibliometric study of such a high stature fellow, belong to a humble background of third world country, really motivate the fellow scientists to work hard. He, with the collaboration of his co-authors, and students succeeded to produce 2,374 documents in 26 years with an average of 91.30 documents per year. His start of research publication was very modest, he managed to publish only one paper in 1995, within the next three years he reached in double-figure and produced 12 documents in 1998. He crossed the half-century of documents (n=51) in one calendar year 2007. He succeeded in published 100 documents in the year 2012. Overall the growing but fluctuated tendency was found because, in the next year 2013, there were 64 published papers on his credit. The year 2017, turned out to be a most productive year with 377 documents, this productivity even more than the total number of documents (n=355) published in the first 15 years from 1995 to 2009. His 2,367 documents published in journals, three documents in conference proceedings, two books and two book series, amongst the documents published in journals, the majority of documents (n=2304) consisted of the type of articles followed by reviews (n=26). His publications gained 69,501 citations with an average of 29.28 citations per document. Four hundred and forty-one (18.63%) documents were published in the middle phase from 2003 to 2011 gained almost one-fourth (n=16,560; 24%) of the citations with an average of 37.55 citations per documents. A slightly more than a quarter (n=627; 26.41%) of the documents were published during the two years from 2016 to 2017 and more than one-third of the citations (n=24,887; 35.80%) were obtained by these documents.

Dr. Hayat contributed in 21 subject-categories or branches of knowledge and the highest number of papers have been written on the subject of *Physics and Astronomy*, followed by *Engineering and Mathematics*. Amongst the most frequently used journals, *Results in Physics* (Impact factor 4.019 and CiteScore 4.8), has been on the top with 119 documents followed by *Journal of Molecular Liquids* (Impact factor 5.065 and CiteScore 8.1) with 105 documents. Both these journals are published from the Netherlands under the flag of Elsevier publisher. The examination of research collaboration by countries and co-authors exposed that Pakistan, Saudi Arabia and China have been positioned in first, second and third rank respectively. Iqbal, Mahmood and Iqbal (2018) paper on the research output of Pakistan from 1981 to 2015 disclosed that amongst the top collaborating countries the United States has been on the top, followed by United Kingdom, China and Saudi Arabia. Haq and Faridi (2021) examined the research growth of Pakistan from 2000 to 2019 and pointed out China has been the leading country in research collaboration followed by United States and Saudi Arabia. The possible reasons for the most frequent collaboration with China and United States are that most of the Pakistani students are getting their higher studies from there. Pakistani universities have durable academic and research cooperation with these countries. The main reason for one of the high collaboration with Saudi

Arabia that number of Pakistani faculty are serving in the Saudi Universities and research organizations.

Associated Press of Pakistan (2019) quoted the China's Ministry of Education that over 28,000 Pakistanis students are studying in China in 2018, ranked third in the number of foreign students' enrollment after South Korea and Thailand. In this year, there were 492,185 international students belonged to 196 countries of the world were studying and 12.28% were enrolled in Masters and doctorate programs. This report presented the current data of Pakistani students perusing their educations in China, 6,165 registered in Ph.D., 3,600 in Masters, 11,000 in Bachelors, and 3,000 in short courses. Another report stated that there are 8,000 Pakistanis students are studying in various universities and colleges in the United States (Associated Press of Pakistan, 2019). A 2012 report stated that there were 8,500 Pakistanis students in United States in 2001 and this number reduced to 5,000 in 2012. There are two theories against low enrollment in the United States, firstly, the denial of visa by America after 9/11 scenario and secondly, the number of universities have been increased in Pakistan so most of the students preferred to study in their home country (Ahmed, 2012).

The bio-bibliometric studies, like other bibliometric studies, are very useful for evaluating the characteristics of research output by individual researcher. The conducive academic and research environment with attractive incentive program play a substantial role in developing a knowledge-based society and enhancing the research productivity. Pakistani universities have been facing the challenge to retain the quality research manpower. The attractive incentive programs have been supporting to retain the skilled research worker in the country (Nasir & Ahmed, 2013).

## CONCLUSION

The bio-bibliometric study of a prolific researcher is the source of encouragement and ideas. Some of the institutions are illustrious because they have productive researchers and these researchers provide a strong foundation to the institutions. To highlight the distinct characteristics of academic and research activities of notable individuals, would not only enhance the worth of the individual but also help to develop the reputation of his particular profession, his affiliated institution and nation as well. The young researchers motivate and try to follow the footsteps of exemplary models.

Dr. Tasawar Hayat set an example for those, who have been complaining that they belong to small towns. Nothing can stop you if you are determined to do something extraordinary. He produced 2,374 documents from 1995 to 28<sup>th</sup> October 2020. His journey of scholarly communication is still going on actively. He produced 377 and 368 documents in the year 2017 and 2018 respectively, means one new paper every day. Behind these achievements, definitely, there has been a continuous hard work, dedication and commitment to his profession.

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