

# MATHEMATICAL CONTRIBUTIONS OF RAVI P. AGARWAL

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ABSTRACT. The aim of this note is to give a brief summary of the contributions by Ravi P. Agarwal to the field of Mathematics.

## 1. INTRODUCTION

In the last fifty years, Ravi P. Agarwal has been one of the most famous, influential and successful figures in the field of Mathematics. In academia, people typically find their place either as good researchers, mentors, editors, or managers. Ravi P. Agarwal has been able to fulfill each of these roles. He is an excellent researcher, a very successful supervisor, the founder of several esteemed scientific journals and a perfect administrator.

Ravi P. Agarwal was born in Moradabad (India) on July 10, 1947. He earned his Master's degree from Agra University in 1969, ranking 2<sup>nd</sup> among over 500 in that year. In 1973, he earned his Ph. D. (Mathematics) at the Indian Institute of Technology in Madras, India, which is one of the highest ranking universities in India. Since then, for the last 50 years, Dr. Agarwal has been actively involved in research and pedagogical activities. He has made significant contributions in various research fields, including Numerical Analysis, Differential and Difference Equations, Inequalities, and Fixed Point Theorems. He is an excellent scholar, a dedicated teacher, and a prolific researcher. He has published 50 research monographs, including [1], and more than 1,800 publications (with almost 700 mathematicians all over the world) in prestigious national and international mathematics journals. Dr. Agarwal has previously worked either as a full-time faculty member or as a visiting professor and scientist in universities in several countries, including India, Germany, Italy, Canada, Australia, USA, Singapore, and Japan. He has held several positions including Visiting Professor, Visiting Scientist, and Professor at various universities in different parts of the world. Specifically, from 1980 to 1981, he was awarded the most prestigious Alexander Von Humboldt Foundation Fellowship to work with Prof. Dr. G. Hammerlin at the Ludwig-Maximilians Universitat, Munchen, Germany. From 1981 to 1982, he worked as a Visiting Professor with Prof. Roberto Conti, at the Instituto Matematico, Firenze, Italy. He has been ranked as a Highly Cited Researcher for 14 consecutive years, and has also been recognized as one of the "World's Most Influential Scientific Minds" in 2014 and 2015 by Thomas Reuters/Clarivate Analytics (the world's most prestigious scientific organization). In 2021 he was listed among the world's top 2% Scientists by Stanford University ([https://1drv.ms/x/s!Ag-47qfFs\\_0OhgFG7xpiw6uqkDeM?e=K0hNpf](https://1drv.ms/x/s!Ag-47qfFs_0OhgFG7xpiw6uqkDeM?e=K0hNpf)), his ranking

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is 6734 out of 186178. In 2022 Dr. Agarwal has been ranked 20th among 100 Top Mathematics Scientists by the Research.com (<https://research.com/scientists-rankings/mathematics>).

According to Google Scholar, Dr. Agarwal has been cited more than 46,783 times. On MathSciNet, his work has been cited more than 17,700 times by 7,400 scientists. Dr. Agarwal is the recipient of several notable honors and awards, including Doctor Honoris Causa (2015 by University of Constanta, Romania), Professor Honoris Causa (2015 by University of Cluj, Romania), Honorary Doctorate (2017 by University of Nis, Serbia), Doctor Honoris Causa (2017 by Plovdiv University, Bulgaria), Doctor Honoris Causa (2017 by Constantin Brancusi, University of Targu-Jiu, Romania), Doctor Honoris Causa (2017 by University of Oradea, Romania, 2017), Doctor Honoris Causa (by 1 December 1918, University of Alba Lulia, Romania), Honorary Doctorate (2019 by Istanbul Gelisim University, Turkey), and Doctor Honoris Causa (2019 by Transilvania University of Brasov, Romania). He was also nominated as a possible candidate for the Banco Bilbao Vizcaya Argentaria (BBVA) Foundation Frontiers of Knowledge Award, an international award scheme recognizing significant contributions in the areas of scientific research and cultural creation. Many BBVA award winners are Nobel laureates, including Stephen Hawking. Florida Institute of Technology (USA) and King Abdulaziz University have recently offered him Distinguished University Professorship of Mathematics.

Dr. Agarwal has provided significant service to Texas A& M University-Kingsville. Under his leadership during 2011- 19, the Department of Mathematics consistently progressed in education and preparation of students, and in new directions of research. His overall impact to the university is considerable. Many scholars from different countries, including China, Turkey, India, and Korea have come to work under his guidance. The majority of these visiting post- doctoral scholars were sent to work under Dr. Agarwal by their employing institutions for at least one year. Dr. Agarwal regularly presents his research at invited talks/colloquiums (over 100 Institutions all over the world). He has been invited to give plenary/keynote lectures at international conferences in the USA, Russia, Italy, India, Portugal, Poland, Spain, Vietnam, China, Taiwan, Korea, Malaysia, Thailand, Romania, Saudi Arabia, Germany, Canada, Singapore, Turkey, Ukraine, Greece, and Japan. He has served as Editor/Honorary Editor or Associate Editor in over 40 Journals, and has published 20 books as editor. Dr. Agarwal has also organized International Conferences. In summary of these few inadequate paragraphs, Dr. Ravi P. Agarwal is a visionary scientist, educator, mentor, organizer and administrator who has contributed to the world through his long service, dedication, and tireless efforts.

#### REFERENCES

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