

Statement of research achievements

Research in Dr. Reddy's group is focused on understanding the molecular networks of various cellular signaling pathways and their contribution to human diseases. In particular, his lab is interested in understanding the role of phosphatases in maintaining cellular homeostasis. Phosphatases, despite being critical players in cell, comprehensive analysis of their interacting proteins in various cellular processes and pathogenesis is not available. Through elegant and systematic studies, his group has made several important discoveries in phosphatase biology. Below are some of the salient research achievements of his group in the last 5 years.

A) A new phosphatase holoenzyme complex for assembly of cell junctions (Kumar et al., EMBO Reports. 2019)

Serine/threonine phosphatases (being about ~26 in three different families: PPP, PPM and FCP) act on thousands of substrates in cell by forming holoenzyme complexes. Interestingly, only PPP subfamily members such as PP2A are known to function as holoenzymes but none so far from PPM subfamily. Here, he discovered a first example of a PPM family holoenzyme by PPM1G and B56 δ to promote assembly of cell junctions. PPM1G-B56 holoenzyme complex dephosphorylate alpha-catenin, which is critical for proper cell-cell contacts and preventing aberrant cancer cell migration.

B) Role of PTEN in glucose uptake (Shinde SR & Maddika S., Cell Reports. 2017)

PTEN is a major tumor suppressor in humans known to regulate survival signaling predominantly through its lipid phosphatase activity. Here, a new pathway has been established for role of PTEN in regulation of glucose transport to the cells via regulation of Glut1 recycling. Importantly, he demonstrated that PTEN limits cellular glucose uptake and suppresses tumor growth independent of its phosphatase function.

C) Identification of novel role for PTEN in endosome maturation (Shinde SR & Maddika S., Nature Communications. 2016)

In this study, his lab has discovered novel functional role of PTEN in regulating endocytosis. They identified Rab7 as a PTEN substrate that needs to be dephosphorylated, which is critical for its targeting to the endosomes. Functionally, they demonstrated that PTEN loss impairs the transition of EGFR from early to late endosomes and thus leads to constitutive growth factor signaling.

C) Establishing human phosphatase interactome (Kumar et al., JPR 2016)

Phosphatases have been studied in isolation in many studies, however they function in complexes in cells. Phenomenal efforts from his group has established an interactome network of 143 human phosphatases built on

6597 high confident interactions. This network will provide a platform for scientific community to explore new functions and processes for phosphatases in cells.

Given the fact that several phosphatases have been reported to have genetic alterations or dysfunction in human disorders, he foresees that fundamental studies in his lab identifying new protein complexes in cells will provide deep insights into human diseases and thus unravel potential therapeutic targets in future.

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद, भारत
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH, INDIA
शांति स्वरूप भटनागर विज्ञान और प्रौद्योगिकी पुरस्कार
SHANTI SWARUP BHATNAGAR PRIZE FOR SCIENCE AND TECHNOLOGY
2022

प्रशस्ति / CITATION

डॉ. मददिका सुब्बा रेडडी / Dr Maddika Subba Reddy



जैव विज्ञान में वर्ष 2022 का शांति स्वरूप भटनागर पुरस्कार डी एन ए फिंगरप्रिंटिंग और निदान केंद्र, हैदराबाद के श्री डॉ. मददिका सुब्बा रेडडी को सेलुलर प्रोटीन सॉर्टिंग पाथवेज के नियमन में फॉस्फेटेजों की नई कार्य-पद्धति के निर्धारण में उनके व्यावहारिक योगदान के लिए प्रदान किया गया है।

The Shanti Swarup Bhatnagar Prize for the year 2022 in Biological Sciences has been awarded to Dr Maddika Subba Reddy of Centre for DNA Fingerprinting and Diagnostics, Hyderabad for his insightful contributions in ascribing new functions to phosphatases in the regulation of cellular protein sorting pathways.



प्रोफेसर आशुतोष शर्मा
अध्यक्ष

Prof. Ashutosh Sharma
President

भारतीय राष्ट्रीय विज्ञान अकादमी

बहादुर शाह ज़फर मार्ग, नई दिल्ली-110002

INDIAN NATIONAL SCIENCE ACADEMY

Bahadur Shah Zafar Marg, New Delhi-110002

No. CC/

12th September, 2023

Election as Fellow

Dear Dr Reddy,

I am delighted to inform that you have been elected as a Fellow of the Indian National Science Academy at the Annual General Meeting on September 12, 2023. My hearty congratulations to you for this recognition. The Fellowship will become effective from January 1, 2024.

The Academy derives its strength in meeting its objectives from its Fellowship. I am certain that you will take active interest in the programmes and activities of the Academy.

The newly elected Fellows are expected to deliver a lecture on a subject of his/her choice during the Anniversary General Meeting of the Academy to be held in December, 2023. The programme of the Anniversary General Meeting will be sent to you in due course.

I sincerely request and wish that you will very soon contribute at least one of your papers to the Academy's Journal of your choice. This will also be a medium to showcase the work of a newly elected Fellow to rest of the Fellowship of the Academy.

I shall appreciate if you can acknowledge receipt of this communication and confirm your acceptance of the Fellowship.

With warmest regards,

Yours sincerely,

(Ashutosh Sharma)

Dr MS Reddy
Staff Scientist-VI & Group Leader
Centre for DNA Fingerprinting and Diagnostics
Inner Ring Road, Uppal
Hyderabad-500039



डॉ. रेणु स्वरूप
DR. RENU SWARUP

सचिव
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जैव प्रौद्योगिकी विभाग
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MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
Block-2, 7th Floor, C.G.O. Complex
Lodhi Road, New Delhi-110003

D.O.No.BT/HRD-NBA-NWB/37/01/2018

Dated: 31.12.2018

Dear Dr. *Renu*

Heartiest congratulations on being selected for the "National Bioscience Award for Career Development 2017/2018". This is a prestigious Award of Department of Biotechnology, Govt. of India to recognize outstanding contributions of Young Scientists in Basic and Applied research in areas of Bioscience and Biotechnology and to provide a research grant for their career development. I extend my Good wishes to you and wish you the best for your future Research Career.

The Award will be conferred on you in a function to be organized by the DBT. The date and venue will be informed to you later. You are requested to join us for this function to receive the award. You may send your acceptance to Dr. Kakali Dey Dasgupta, Scientist 'E', Department of Biotechnology, Govt. of India.

With best wishes,

Yours sincerely,

(Renu Swarup)

Dr. Maddika Subba Reddy,
Group Leader & Staff Scientist-V,
Lab of Cell Death and Survival,
Centre for DNA Fingerprinting and Diagnostics (CDFD),
Inner Ring Road, Uppal
Hyderabad – 500 039, Telangana



NASI-SCOPUS YOUNG SCIENTIST AWARDS 2018

Presented to *Dr. Maddika Subba Reddy*

Centre for DNA Fingerprinting & Diagnostics (CDFD), Hyderabad

for his meritorious contributions in the field of

Biomedical Research & Healthcare

21st November 2018

Dr. Anil Kakodkar
President - National Academy
of Sciences, India

Mr. Youngsuk Chi
Chairman
Elsevier

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B.M. BIRLA SCIENCE PRIZE

*The B.M. Birla Science Prize
for the year 2016*



*in
Biology*

*Jointly Awarded
Maddika Subba Reddy*

*of Centre For Dna Fingerprinting And Diagnostics
(CDFD), Hyderabad*

*Hyderabad
January 27th, 2018*

*Director
B.M. Birla Science Centre
Hyderabad*



भारत सरकार
GOVERNMENT OF INDIA
बाबा परमाणु अनुसंधान केंद्र
BHABHA ATOMIC RESEARCH CENTRE
Mumbai - 400085, India.

Prof. Hari S Misra FNASc
Head
Molecular Biology Division

Tel: 09122-25593821
09122-25592694
Email: hsmisra@barc.gov.in

Ref. BARC/MBD/17/OPA/1934

February 13, 2017

SPEED POST

Dear Dr. Reddy

Guha Research Conference (GRC) members attended GRC2016 meeting held at Diu (UT) during December 8-12, 2016 have very much appreciated your work presented during this meeting and have overwhelmingly elected you as the member of Guha Research Conference Association.

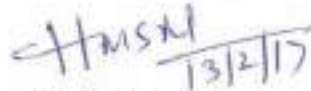
The conveners of GRC2016 meeting heartily congratulate you on your "ELECTION as a member of Guha Research Conference". We are very confident that your election to this prestigious academic body of biological scientists in India will be a great value addition to GRC.

We also thank you for accepting our invitation and presenting your work during GRC2016.

GRC is looking forward your quality contributions to this association.

Thanking you.

Best regards


(H. S. Misra)
(Convener, GRC2016)

Dr. Maddika Subba Reddy
Centre for DNA Fingerprinting and Diagnostics
Bldg-7, Gruhakalpa
5, -4-399/B, Nampally
Hyderabad- 500 001



GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
BLOCK-2, 7TH FLOOR, C.G.O. Complex
Lodi Road, New Delhi – 110003

Dr. T. Madhan Mohan
Adviser

D.O.No.BT/01/IYBA/2009

Dated: 05-07-2013

Dear Dr. Reddy,

I am happy to inform you that the IYBA review committee in its meeting held on 19th June 2013 has found your IYBA project progress is outstanding. It has therefore recommended awarding Senior IYBA for a period of three years based on the expanded work plan presented by you in this meeting. Towards this, you are requested to submit the detailed project proposal as presented by you during the review meeting with detailed justification for the financial requirements. The total budget should not exceed ₹ 100.00 lakhs. The proposal needs to be submitted in DBT's format and a copy of the format is enclosed. The proposal needs to be submitted by 10th August 2013 through proper channel along with a soft copy of the proposal to iyba.dbt@nic.in

Since you are in permanent employment you would continue to receive ₹. 1.00 lakh per year as a cash award. This can be reflected in the recurring heads of your financial requirements.

With best regards,

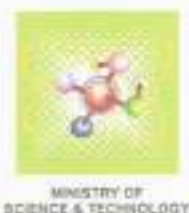
Yours sincerely,

(Dr. T. Madhan Mohan)

Dr. Maddika Subba Reddy,
Group Leader, Laboratory of Cell Death & Cell Survival,
Centre for DNA Fingerprinting and Diagnostics (CDFD),
Bldg. 7, Gruhakalpa, 5-4-399/B, Nampally,
Hyderabad – 500 001, Andhra Pradesh.
Email: msreddy@cdfd.org.in



डा० एम० के० भान
Dr. M. K. Bhan



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DEPARTMENT OF BIOTECHNOLOGY
Block-2, (7th Floor) C.G.O. Complex
Lodi Road, New Delhi-110003

D.O.No BT/BI/12/040/2005

Dated: 24-02-2010

Dear Dr. Maddika,

I am delighted to inform you that you have been selected for the "Innovative Young Biotechnologists Award for the year 2009". As you are aware, it is a prestigious Award instituted by the Department of Biotechnology, Govt. of India to identify and nurture outstanding young scientists with innovative ideas for pursuing research in frontier areas of biotechnology. I extend my heartiest congratulations for being selected for this Award.

The Award would be conferred by the Hon'ble Minister for Science and Technology and Earth Sciences in a function to be organised by DBT. The date and venue will be informed to you as and when it is finalized. You are requested to join us for this function to receive the Award. TA/DA for your travel will be provided by this Department. (Air travel to be restricted only by Air India with lowest economy class fare). For further details if any, please be in touch with Dr. T. Madhan Mohan, Adviser, DBT (madhan@dbt.nic.in, 011-24361813).

With best regards,

Yours sincerely,


(M.K. Bhan)

Dr. Maddika Subba Reddy (5)
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Associate Institute, University of Hyderabad,
Gachibowli, Hyderabad - 500046, Andhra Pradesh
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Reema Saxena - 011-24364160

Tel: 24362950/24362881 Fax: 011-24360747/24362884/24363018 E-mail: mkbhan@dbt.nic.in Telegram: 'BIOTECH'



भारतीय विज्ञान अकादमी

(विज्ञान एवं प्रौद्योगिकी विभाग भारत सरकार के तत्वावधान में एक वृत्तिक के निकाय)

डाक पेटी सं. 8005, सी.वी. रामन अवेन्यू, बंगलुरु - 560 080, भारत

INDIAN ACADEMY OF SCIENCES

(A Professional body under the aegis of Dept. of Science & Technology, Govt. of India)
P.B No. 8005, C.V. Raman Avenue, Bengaluru - 560 080, INDIA

Professor Partha P Majumder
President

1 January 2021

Dr S R Maddika
Centre for DNA Fingerprinting & Diagnostics
Uppal
Hyderabad 500 039

Dear Dr Maddika,

The Council of the Indian Academy of Sciences in its meeting held in December 2020 has recommended your election to the Fellowship of the Academy. Please accept my warmest congratulations!

Since its inception in 1934, nearly 2000 of the leading scientists of India (as well as some from outside India) have been elected Fellows of the Indian Academy of Sciences. Through its various activities, our Academy plays a major role in furthering the cause of science in the country, and Fellows of the Academy not only act as spokespersons for their disciplines, but also for the science at the national level.

The activities of the Academy come under three major categories: scholarly publication, science education, and science dissemination. The Academy publishes 13 scientific journals on different subjects, including Current Science (in association with Current Science Association) and organizes several discussion meetings on important topics of scientific interest. In addition, we have a vibrant visitors' programme whereby distinguished colleagues from across the world can be invited to occupy the Raman, Janaki Ammal, Jubilee and Academy-Springer Nature Chair Professorships. Detailed information on these activities is available on our website (www.ias.ac.in).

The Academy has an extensive and active science education programme in which the Fellowship and the scientific community of the country play an important role. There are refresher courses of up to three weeks, summer research mentorship as well as short discussion meetings that are held all across the country. The Academy also selects a few outstanding younger scientists as Associates each year. Both these programmes have been undergoing considerable restructuring in order to help us achieve our objectives in a more equitable manner. A matter that has received particular attention over the past year has been summarised in the document "Scientific Values: Ethics Guidelines and Procedures", the revised guidelines for ethical conduct that we expect all Fellows to uphold.

The Academy meets twice a year, the mid-year meeting being in late June/early July, and an annual meeting held in the first week of November. I hope that it will be possible for you to attend one of the meetings of the Academy during this year, and also regularly in subsequent years. Your participation in the activities of the Academy and your help in promoting its programmes will be crucial.

I look forward to your active involvement and will be happy to hear from you as to how we can strengthen these activities. With best wishes for a very happy New Year 2021, and with my personal regards,

Sincerely,

Partha P Majumder

