
Sent from: DR 167, London

Date: 28, Dec 1961

To: Prof. Ramakrishnan, 27 Luz, Madras

Warmest wishes. Opening Institute. Confident under your inspiring leadership this will become a great centre for research — Salam

ABDUS SALAM

Imperial College, London

COMMENTS: Alladi Ramakrishnan and Abdus Salam were close friends and admired each other not only for their research, but also for the efforts they both made for the scientific profession. Salam was interested in starting an institute of fundamental research in Pakistan, but he eventually created the *International Centre for Theoretical Physics (ICTP)* in Trieste, Italy, in 1964, with the support of UNESCO. Salam was Director of ICTP since its inception until his death, but he retained his position at Imperial College, London. Salam visited Madras in 1960 as Ramakrishnan's guest and lectured at the Theoretical Physics Seminar. He invited Ramakrishnan to a conference in Italy in 1960 to have discussions with a small group of visionary scientists when he (Salam) was planning the creation of ICTP. Thus it was natural that Salam admired and supported Ramakrishnan's efforts to create an institute for fundamental research in India. Ramakrishnan visited ICTP several times in the sixties at the invitation of Salam, and his wife and son accompanied him for these extended stays in Trieste, the first being in 1965 when the ICTP was located in Piazza Oberdan before it moved to its magnificent permanent location in Grignano, near the Castle Miramare outside Trieste. After Salam won the 1979 Nobel Prize, he visited MATSCIENCE in 1980 which had by then moved to its permanent home on Taramani Campus in Madras.

Sent from: PL 300 Kobenhavn 2 OCS 15

Date: 3 Jan 1962

To: Prof. Ramakrishnan, Ekamra Nivas, 27 Luz, Madras

At inauguration of The Institute of Mathematical Sciences in Madras, the whole group of the Copenhagen Institute for Theoretical Physics wants to send its heartiest felicitations STOP The community of physicists has been impressed by the vigour and zeal with which Prof. Ramakrishnan has been able to educate and inspire his young pupils and collaborators, and the work in the new institute will be followed with keen expectations STOP Indeed as an important asset to the scientific research in India, the creation of the Madras Institute is eagerly welcomed in that worldwide cooperation in science which offers so great opportunities for promoting the understanding between all peoples — Niels Bohr

NIELS BOHR

Copenhagen, Denmark

COMMENTS: Nobel Laureate Niels Bohr was one of the greatest and most influential physicists. Bohr founded and directed the Copenhagen Institute of Theoretical Physics. Bohr visited India in January 1960 as the personal guest of Prime Minister Jawaharlal Nehru. Alladi Ramakrishnan had corresponded with Professor Bohr earlier, and Bohr graciously agreed to visit the Theoretical Physics Seminar at Alladi Ramakrishnan's home *Ekamra Nivas* in Madras. Bohr and his wife had dinner on the lawns of Ekamra Nivas and stayed until midnight talking to Ramakrishnan, the students and other guests. Upon return to Delhi at the end of his visit, Bohr expressed the opinion that two things impressed him the most on his trip to India - the massive set up of the Atomic Energy Commission and the Tata Institute founded by Homi Bhabha in Bombay, and the group of students being trained by Alladi Ramakrishnan in Madras. Here is a quote from the The Hindu, India's National Newspaper, about Bohr's statement:

Dr. Bohr said that the Atomic Energy Establishment was a mighty endeavour where research is being conducted in the best way under the leadership of Dr. H. J. Bhabha, a great scientist and at the same time a very good administrator.

Asked about the place mathematics should occupy in the pursuit of theoretical physics, the professor said that in Bombay and Madras energetic efforts were being made for the promotion of knowledge of physics which demanded new mathematical methods of education of young people to be able to fruitfully contribute to such work. Wonderful work was being done in the field of theoretical physics by Professor Alladi Ramakrishnan of the Madras University.

This statement by Bohr, which was flashed in the newspapers, sparked the attention of Prime Minister Nehru, and ultimately led the creation of MATSCIENCE.

Later on an academic trip to Europe in 1960, Alladi Ramakrishnan visited the Copenhagen Institute at Bohr's invitation and attended the Symposium on Nuclear Structure. Ramakrishnan was invited for dinner at Bohr's residence where he met the whole family. Nobel laureate Jensen was at this dinner. Ramakrishnan was also invited to a party at the home of Aage Bohr (son of Niels Bohr) who later became a Nobel laureate!

Bohr's happiness in the creation of MATSCIENCE and his total support can be seen from both the length of his telegram and its contents.

Sent from: 102 Muenchen 4

Date: 4 Jan, 1962

To: Professor Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

My best wishes on the inauguration of the Institute of Mathematical Sciences and much success in its future work — Werner Heisenberg

WERNER HEISENBERG

Munich, Germany

COMMENTS: Alladi Ramakrishnan first met Professor Nobel Laureate Werner Heisenberg in 1949 at a Conference on Modern Physics in Edinburgh, Scotland. At that time Ramakrishnan was doing his PhD at the University of Manchester on the topic of product densities in the area of probability. Heisenberg invited Ramakrishnan to give a seminar in Gottingen during Ramakrishnan's round-the-world academic tour of 1956. Heisenberg was very much impressed with Ramakrishnan's talk in the theory of probability and stochastic processes. Prof. Flugge, Editor of the *Handbuch der Physik* of Springer-Verlag, was also at this seminar. Based on Heisenberg's recommendation, Flugge invited Ramakrishnan to write a comprehensive article focussing on his *theory of product densities* and its relationship with central ideas in the theory of probability and stochastic processes. This was published in the *Handbuch der Physik* in 1959*.

*Alladi Ramakrishnan, "Probability and stochastic processes", in *Handbuch der Physik*, **3** (1959) Springer Verlag, Berlin, 524-651.

Sent from: 30 Pasadena, California

Date: 29 Dec, 1961

To: Professor Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

Best wishes for the success of the Institute — Murray Gell Mann

MURRAY GELL-MANN

Caltech

Sent from: 276 Chicago, Illinois

Date: 29 Dec, 1961

To: Professor Alladi Ramakrishnan, 27 Luz, Mylapore, Madras, India

Delighted to learn of inauguration of Institute of Mathematical sciences STOP I congratulate Madras State and send best wishes and confident hopes for a brilliant future for the Institute — Richard Dalitz

RICHARD DALITZ

University of Chicago

COMMENTS: Professor Murray Gell-Mann (Caltech) and Professor Richard Dalitz (University of Chicago) were visiting India in 1961 in connection with a summer school in theoretical physics conducted by the Tata Institute in Bangalore that Ramakrishnan also attended. Gell-Mann's work in physics was already creating a sensation. Ramakrishnan invited Gell-Mann and Dalitz to Madras to speak at the *Theoretical Physics Seminar* and both of them stayed at *Ekamra Nivas* prior to the Bangalore summer school. Gell-Mann and Dalitz thoroughly enjoyed their visit to Madras, both academically and socially. Gell-Mann invited Ramakrishnan to give a Colloquium in Caltech. That visit to Caltech was one of the highlights of Ramakrishnan's Round-the-World tour in 1962. His wife Lalitha and son Krishna accompanied Ramakrishnan on that magnificent trip, the first for Krishna overseas, and the beginning of several such trips with his father in the next decade. Gell-Mann hosted a party at his home in honor of Ramakrishnan. The legendary physicist Richard Feynman (who later won the Nobel Prize) was also at this party.

Gell-Mann won the 1969 *Nobel Prize* in physics for his *quark model of the atom*. Inspired by Gell-Mann's revolutionary work, Ramakrishnan studied Gell-Mann's ideas closely; subsequently Ramakrishnan obtained an elegant generalization of the Gell Mann - Nishijima relation.

Sent from: 6 Princeton, New Jersey

Date: 3 Jan, 1962

To: Prof. . Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

Best wishes for the future success of your institute as a center for scientific research — T. D. Lee and C. N. Yang

T.D. LEE and C. N. YANG

Institute for Advanced Study, Princeton

COMMENTS: When Ramakrishnan visited the Institute for Advanced Study in Princeton in 1957-58, Lee and Yang were in residence at the Institute. Everyone was talking about Lee and Yang's theory of non-conservation of parity and excited about the possibility of a Nobel Prize in Physics which they were awarded later that year.

Sent from: 67 New York, New York

Date: 4 January, 1962

To: Alladi Ramakrishnan, Ekamra Nivas, Mylapore, Madras

*Best wishes for success of new Institute of Mathematical Sciences —
Mark Kac*

MARK KAC

Rockefeller University, New York

COMMENT: Mark Kac was a very famous probabilist of Polish descent. He was born in Ukraine in 1914. He received his PhD in 1937 in Lwow, Poland, under the direction of Hugo Steinhaus. Kac immigrated to the United States in 1938. He was at Cornell University until 1931 when he moved to Rockefeller University in New York where he stayed for twenty years before finally moving to the University of Southern California. Kac was mainly interested in probability. His question *Can you hear the shape of a drum?* spurred enormous research activity. He is also known for the *Erdős-Kac Theorem* which led to the creation of Probabilistic Number Theory.

Sent from: 95 Santiago, Chile

Date: 4 January, 1962

To: Alladi Ramakrishnan, 27 Luz, Mylapore, Madras

*Best wishes for inauguration and subsequent success of Institute of
Mathematical Sciences — Marshall Stone*

MARSHALL STONE

University of Chicago

COMMENTS: Marshall Stone was one of the most influential mathematicians of the twentieth century. The *Stone-Weierstrass theorem* is so fundamental, that everyone going through graduate school in mathematics sees this in a course on real analysis. Stone was more than just a great mathematician. He believed in making contributions to the profession. Under his dynamic leadership as Chairman, the mathematics department at the University of Chicago grew to great heights in the 1950s. The period when Stone was chairman at Chicago has been often referred to as *The Stone Age!* Stone was also President of the American Mathematical Society. Thus with his own desire to mould the shape of mathematics education and research in America, he could understand and appreciate Alladi Ramakrishnan's interests in creating a stimulating atmosphere for scientific research in Madras. Also Marshall Stone's father was a Justice of the US Supreme Court; thus Professor Stone could appreciate and understand Alladi Ramakrishnan's family background very well.

Professor Stone visited India regularly in the sixties and seventies because he served on committees for the improvement of mathematics in India. During some of these visits he lectured at MATSCIENCE. In 1963 he was *Ramanujan Visiting Professor* at MATSCIENCE. Later in January 1969, he was present when MATSCIENCE moved into its new buildings on Taramani Campus. Stone attended the inauguration of the new building and gave the first lecture there.

Stone visited Madras regularly in December/January to attend the annual festival of the Madras Music Academy with Alladi and Lalitha Ramakrishnan. Professor Stone died in Madras in January 1987 after attending the 1986-87 music season there.

Stone travelled extensively. This telegram was sent from Chile!

Sent from: LD 68 London
Date: 3 Jan, 1962
To: Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

Best wishes to Institute of Mathematical Sciences representing important new encouragement to Indian research — Maurice Bartlett

MAURICE BARTLETT
 University College, London

Sent from: DR 78 Oxford, England
Date: 31 Dec 1961
To: Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

Warmest felicitations and best wishes — David Kendall

DAVID KENDALL
 Oxford University

COMMENTS: Professor M. S. Bartlett, a highly reputed statistician, was the PhD advisor of Alladi Ramakrishnan at the University of Manchester. Bartlett is widely known for his work in multivariate analysis, stochastic processes, and applications of statistics to genetics, and wrote a number of influential papers and books. Among his honors are the Guy Silver (1952) and Gold (1969) Medals of the Royal Statistical Society, Fellowship of the Royal Society (1961), his election as Foreign Associate to the US National Academy of Sciences (1993). He was President of the Royal Statistical Society (1966).

Bartlett was appointed Professor at the University of Manchester in 1947. When Alladi Ramakrishnan arrived at the University of Manchester in 1949, Bartlett was much impressed with Ramakrishnan's *method of product densities* and communicated Ramakrishnan's papers* to the Proceedings of the Cambridge Philosophical Society.

David Kendall (FRS), another very eminent statistician, was on Alladi Ramakrishnan's PhD committee. Kendall at that time was at Oxford, and Ramakrishnan visited Oxford regularly to have discussions with Kendall at Magdalene College. Alladi Ramakrishnan's product density method extended Kendall's work to higher orders*. When Alladi Ramakrishnan visited Oxford University in 1960 during his trip to Europe, Kendall invited Ramakrishnan to a High Table dinner. Kendall later was appointed professor at Cambridge University.

*Alladi Ramakrishnan, "Stochastic processes relating to particles distributed in a continuous infinity of states", *Proc. Cambridge Phil. Soc.*, **46** (1950), 595-602.

Alladi Ramakrishnan, "Stochastic processes associated with random divisions of a line", *Proc. Cambridge Phil. Soc.*, **49** (1953), 473-485.

**Alladi Ramakrishnan, "Stochastic processes and their applications to physical problems" *PhD Thesis, Univ. Manchester* (1951).

Sent from: 111 Heidelberg

Date: 30 December 1961

To: Professor Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

My greetings and best wishes on the occasion of the foundation of the new Institute of Mathematical Sciences which represents the nascent spirit of the new scientific generation in India — Maass

HANS MAASS

Max Planck Institute

Heidelberg, Germany

COMMENTS: Hans Maass, a very eminent German mathematician, made notable contributions to Number Theory in the area of modular forms. He is now most known for introducing in 1949 what are now called *Maass wave forms* which in the past few years have become crucial in understanding the relationship between Ramanujan's mock theta functions and the theory of modular forms. Alladi Ramakrishnan met Maass during his first round-the-world academic tour of 1956 when Maass invited Ramakrishnan for a talk at the Max Planck Institute in Heidelberg.

NOTE: Instead of a telegram, Professor Mott sent the following letter:

From: Professor N. F. Mott, F.R.S.

University of Cambridge

Department of Physics

Cavendish Laboratory

Date: 3 January, 1962

To: Alladi Ramakrishnan, Ekamra Nivas, Mylapore, Madras

Dear Professor Ramakrishnan,

Unfortunately your letter reached me only today and seems too late to send you a cable. I would however like to send you the best wishes from all of us in the Cavendish Laboratory for your new venture.

Yours sincerely,

N. F. Mott

COMMENT: Sir Nevill Francis Mott, F. R. S., won the Nobel Prize for physics in 1977 (along with Philip W. Anderson and J. H. van Vleck) for his work on the electronic structure of magnetic and disordered systems. Mott held a lectureship at the University of Manchester in 1929 but moved to Cambridge in 1930. He then was at Bristol where he was Wills Professor of Physics and Director of the Wills Physical Laboratories before being appointed Cavendish Professor of Physics at Cambridge in 1954. Mott was elected Fellow of the Royal Society in 1936 and served as President of the Physical Society in 1957. Alladi Ramakrishnan met Mott in England while doing his PhD in Manchester during 1949-51.

NOTE: Instead of a telegram, Professor Dirac sent the following letter:

Sent from: 7 Cavendish, Cambridge, England

Date: 11 January, 1962

To: Alladi Ramakrishnan, Ekamra Nivas, Mylapore, Madras

Dear Ramakrishnan,

I am very glad to hear that there is to be an Institute of Advanced Mathematics in Madras and that you are to be its Director. I send you my warmest congratulations.

I did not get your letter until January 4-th. I suppose it was delayed by the Christmas rush.

Wishing every success to you and your new Institute.

Yours sincerely,

P. A. M. Dirac

Cambridge University, England.

COMMENT: Professor Dirac was one of the greatest physicists of the twentieth century. He received the Nobel Prize in Physics in 1933 along with Erwin Schroedinger. He is the one who predicted the positron. Many things are named after him, such as the Dirac delta function and the Dirac equation. He was Lucasian Professor at Cambridge University, England. Among his notable students were Homi Bhabha who later founded the Tata Institute, and Harish-Chandra of Lie theory fame. Professor Dirac was a guest of Alladi Ramakrishnan at Ekamra Nivas in December 1954.

Dirac was a great influence on Ramakrishnan for several reasons. After Ramakrishnan visited the Institute for Advanced Study in Princeton in 1957-58, the focus of his research shifted to elementary particle physics. One of the problems that engaged Ramakrishnan's attention was why Dirac used only a set of 4 anti-commuting matrices and discarded the fifth (denoted as γ_5) in his theory. In understanding this, Ramakrishnan came up with a new idea, namely that of a σ operation, which explained first how the anti-commuting 4×4 Dirac matrices can be built from the 2×2 Pauli matrices. Then with the sigma operation he constructed* an algebra of $2n \times 2n$ matrices. In a sequence of papers by himself and with his students, he studied various ramifications of this algebra and its connections with Clifford algebras. He published a book (*L-Matrix theory, or the grammar of Dirac matrices*, Tata McGraw Hill, 1972) which is a compilation of his papers on this topic. In 1980 on a visit to Florida State University for a lecture in the statistics department, Ramakrishnan called on Dirac (who had moved to the physics department at Florida State University after retirement from Cambridge) and had a discussion with him on the σ -operation.

*Alladi Ramakrishnan, "The Dirac Hamiltonian as a member of a hierarchy of matrices", *J. Math. Analysis and Appl.*, **20** (1967), 9-16.

Instead of a telegram, Professor Schwartz sent the following letter:

UNIVERSITE DE PARIS
FACULTE DES SCIENCES
DEPARTMENT DE MATHEMATIQUES
14 rue Pierre Curie
PARIS V
5 janvier 1962

Mon cher Ramakrishnan,

J'ai été très heureux de la nouvelle que vous m'annoncez, de la création d'un Institut de recherche à Madras. C'était infiniment souhaitable et je suis sûr que vous lui assurerez le meilleur succès. Je pense que cela vous donnera un lourd travail, mais dont l'utilité est certaine.

J'aurais aimé pu vous envoyer un câble pour l'inauguration mais je n'ai pas reçu votre lettre à temps.

Avec mes meilleurs vœux et mes meilleurs sentiments.

Laurent SCHWARTZ

*37 rue Pierre Nicole
PARIS V*

COMMENTS: Laurent Schwartz, a great French mathematician, was awarded the Fields Medal in 1950 for creating the theory of distributions through which, one gets, for example, a clearer understanding of the Dirac delta function. He was for many years at the Ecole Polytechnique in Paris. 1966 Fields Medalist Alexander Grothendieck was a student of Laurent Schwartz. Alladi Ramakrishnan's interest in stochastic processes and probability motivated his interest in the fundamental work of Schwartz on distributions. Laurent Schwartz visited Alladi Ramakrishnan's Theoretical Physics Seminar in 1957.

Instead of a telegram, Professor Yukawa sent the following letter:

FROM: Research Institute for Fundamental Physics
Yukawa Hall, Kyoto university
Kyoto, Japan
January 8, 1962

TO: Professor Alladi Ramakrishnan
Department of Physics
University of Madras
Madras, INDIA

Dear Professor Ramakrishnan,

Since I was absent from our Institute during the closing days and new year days, I had the chance to see your letter only when it was too late to send a cable in time for the inauguration of your institute. But please accept my hearty congratulations. I am very pleased to know that a new institute for advanced research in mathematics and theoretical physics is established in Madras and that you are the first director. I am sure that your institute will contribute a great deal not only to the advancement of mathematics and theoretical physics, but also will serve for closer cooperation between Indian and Japanese scientists, in particular and Asian scientists more generally.

Sincerely yours,

Hideki Yukawa, Director

*Research Institute for
Fundamental Physics
Kyoto University, Kyoto
Japan*

COMMENTS: Hideki Yukawa won the 1949 Nobel Prize in physics for predicting the existence of the pion which was discovered in 1947. After briefly serving as professor at Columbia University, Yukawa became the First Director of the Yukawa Institute of Theoretical Physics (=Yukawa Hall) in Kyoto in 1953. Alladi Ramakrishnan visited Yukawa Hall for two weeks during his momentous first round-the-world tour of 1956. Meeting Professor Yukawa and the new generation of Japanese physicists in the post World War II era in Japan made a big impression on Ramakrishnan, and gave him a desire to start create a similar institute and atmosphere in Madras. Alladi Ramakrishnan has acknowledged the effect of the the visit to Yukawa Hall in his speech "A miracle has happened" that he delivered at the inauguration of MATSCIENCE.

Instead of a telegram, Professor Glaser sent the following letter:

FROM: Massachusetts Institute of Technology
Cambridge 39, Massachusetts
January 9, 1962

TO: Professor Alladi Ramakrishnan
University of Madras
27 Luz, Mylapore
Madras, INDIA

Dear Professor Ramakrishnan,

Congratulations on your success in convincing the Government of Madras to sponsor an Institute of Mathematical Sciences there. I wish you the very best of luck as the first director of this Institute in pursuing advanced research in mathematics and theoretical physics, in which you and your students have already had considerable success.

I am very sorry that, because of the holidays, I did not have the opportunity to write to you in time for the inauguration ceremony on January 3, but wish to send you anyway my warmest personal regards and best wishes for your continued success in creative work.

Sincerely yours,

Donald A. Glaser

Visiting Professor of Biophysics

COMMENTS: Donald Glaser won the Nobel Prize for the discovery of the *bubble chamber* in biophysics. Glaser joined the faculty of the University of California, Berkeley, in 1959, and received the Nobel Prize when he was there. Glaser lectured at Alladi Ramakrishnan's Theoretical Physics Seminar at Ekamra Nivas in August 1961 and had long discussions with the students. This letter was sent from MIT where Glaser was visiting in January 1962.

Instead of a telegram, Professor Feynman sent the following letter:

FROM: California Institute of Technology
Norman Bridge Laboratory of Physics
Pasadena, California
January 5, 1962

TO: Professor Alladi Ramakrishnan
University of Madras
27 Luz, Mylapore
Madras, INDIA

Dear Professor Ramakrishnan,

I am sorry to say that I was away for the holidays and your letter was opened only today, too late for me to cable you. Rest assured, however, that you have my good wishes, and I hope you have great success.

Sincerely,

R. P. Feynman

COMMENT: Nobel Laureate Richard Feynman was one of the most eminent physicists of the twentieth century. His penetrating insight was admired by all. Alladi Ramakrishnan had the opportunity to meet Feynman in his office Caltech in 1956 and hear from the great man himself about how the electron travels back in time. Ramakrishnan was visiting the RAND Corporation in 1956 at the invitation of Richard Bellman, and it was Bellman who arranged this meeting with Feynman. Inspired by this meeting, and guided by his own intuition in probability, Ramakrishnan subsequently obtained a new simple proof of the equivalence of the Feynman and field theoretic formalism by splitting the Feynman propagator into its real and imaginary parts. This paper* appeared in the Journal of Mathematical Analysis and Applications, of which Bellman was the Editor-in-Chief.

In the Fall of 1962, at the invitation of Murray Gellmann, Ramakrishnan gave a colloquium at Caltech. Feynman attended Ramakrishnan's talk and the party in honor of Ramakrishnan at Gellmann's home in the hills of Altadena.

*Alladi Ramakrishnan, "Some new topological features of Feynman graphs", *J. Math. Analysis and Appl.*, **17** (1967), 68-71.

Sent from: 212 Princeton, New Jersey

Date: 30 Dec, 1961

To: Dr. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

On the occasion of the inauguration of the Institute of Mathematical Sciences, I am sending you all good wishes for your future work as Director of a new and highly important center of scientific research — Bengt Stromgren

BENGT STROMGREN

Institute for Advanced Study, Princeton

COMMENTS: Bengt Stromgren, a noted Danish astronomer and astrophysicist, was appointed as the first Professor of Astrophysics at the Institute for Advanced Study in Princeton in 1957. There he occupied the office of Albert Einstein who had died a little earlier. When Ramakrishnan visited the Institute for Advanced Study in Princeton in 1957-58, he heard over one hundred seminars, including those of Stromgren on astrophysics. Stromgren's lectures were of particular interest to Ramakrishnan who a few years earlier had started publishing papers in the Astrophysical Journal, all of which were communicated by the great Indian astrophysicist Subrahmanyam Chandrasekhar.

Sent from: 268 Rochester, New York

Date: 3 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

On behalf of University of Rochester Dept of Physics and Astronomy extend to you personally and colleagues in new institute very best wishes for distinguished contributions to science and human welfare — Prof. Marshak

ROBERT MARSHAK

Professor of Physics

University of Rochester

COMMENTS: Alladi Ramakrishnan's first contact with Professor Marshak was through the High Energy Physics Conference at Rochester that Marshak organized in 1956. Marshak invited Ramakrishnan to this conference during Ramakrishnan's first world tour of 1956. Marshak, a very eminent physicist, was also a great statesman for the discipline. He launched this successful series of conferences in high energy physics, and these were called the Rochester Conferences because there were initially held at the University of Rochester. Subsequently, these high energy physics conferences were held in different parts of the globe, and Marshak continued to be a key component in the conferences.

The 1956 Rochester conference had an enormous impact on Ramakrishnan. It exposed him to the latest advances in particle physics, and the significant research done in the United States. It was at this conference that Ramakrishnan met Robert Oppenheimer, Director of the Institute for Advanced Study, Princeton, and as a consequence of this meeting, Ramakrishnan received an invitation from Oppenheimer to visit the Institute for Advanced Study in 1957-58. Finally, through this first meeting at the Rochester Conference, Ramakrishnan got to know Marshak quite well and their friendship and mutual admiration grew over the years. Marshak who was not only an eminent scientist, but also someone who contributed to the profession with his administrative, organizational, and leadership skills, very much admired and appreciated Ramakrishnan's efforts in creating and leading MATSCIENCE. Marshak visited MATSCIENCE in January 1963 as the First Niels Bohr Visiting Professor and attended the First Anniversary Symposium of MATSCIENCE which was in his honor. He was very much impressed with the atmosphere of the new institute, vibrant with several eminent visiting scientists from abroad, and an enthusiastic group of faculty and students. In return, Marshak invited Ramakrishnan to the University of Rochester several times in the sixties.

Sent from: 171 Rochester, New York

Date: 3 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

Delighted to hear of creation of institute for mathematical sciences which will be important step in further development of Indian science. Your appointment as Director promises well for success of Institute. Be assured of my best wishes and willingness to help where possible — McCrea Hazlett

McCREA HAZLETT
University of Rochester

COMMENTS: McCrea Hazlett was Provost at the University of Rochester from 1961 to 1968. He was one of the last visitors to Alladi Ramakrishnan's Theoretical Physics Seminar in Madras in November 1961 just before the creation of MATSCIENCE. When Ramakrishnan visited the University of Rochester at the invitation of Professor Marshak in 1963, 1966, and 1967, Hazlett graciously hosted Ramakrishnan and his family. Hazlett visited Madras again in January 1964 with his family after MATSCIENCE was created and delivered the Second Anniversary Address of the Institute.

Sent from: 172 Santa Monica, California

Date: 3 Jan, 1962

To: Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

Warmest congratulations on the founding of the Institute of Mathematical Sciences and on your appointment as Director. I am sure that much fruitful and creative work will emerge and that it will contribute to the cultural glory of the new and dynamic India — Bellman

RICHARD BELLMAN

Rand Corporation, Santa Monica, California

COMMENTS: Richard Bellman, one of most well known applied mathematicians, was a senior scientist at the famous RAND (acronym for Research and Development) Corporation, located in Santa Monica, a lovely suburb of Los Angeles. In 1949, when Alladi Ramakrishnan was doing his PhD at the University of Manchester, he became aware of the fundamental work of Richard Bellman and Ted Harris. Subsequently, Bellman got interested in Ramakrishnan's work on *product densities* and invited Ramakrishnan to the RAND Corporation during Ramakrishnan's first round-the-world tour of 1956, Bellman was much impressed with Ramakrishnan's work on probability, and suggested that Ramakrishnan contact the brilliant applied mathematician Peter Lax at the Courant Institute. Indeed, Lax invited Ramakrishnan for a colloquium at Courant that year. Bellman also arranged a meeting for Ramakrishnan with Richard Feynman at Caltech that year. Bellman and Ramakrishnan were very close. Bellman invited Ramakrishnan several times to California - on a major assignment to Rand in 1962, and subsequently to the University of Southern California in the 1970s after he (Bellman) moved there. Bellman founded the Journal of Mathematical Analysis and Applications, and Ramakrishnan contributed several fundamental papers to the journal from the 1950s to 2000 (the Millennium Bellman Memorial issue). Bellman had Ramakrishnan appointed as one of the Editors of the Journal of Mathematical Analysis and Applications. Ramakrishnan's only regret was that Bellman never visited Madras and he (Ramakrishnan) did not have an opportunity to host Bellman at MATSCIENCE and Ekamra Nivas.

Sent from: 96 Stanford, California

Date: 2 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

The Stanford University Department of Physics sends greetings and good wishes on the occasion of the Institute of Mathematical Sciences and hopes for a great future of scientific work — L. I. Schiff

L. I. SCHIFF

Department of Physics

Stanford University

COMMENTS: Leonard Schiff was one of the very few physicists who made notable contributions to almost every branch of physics. His book on *Quantum Mechanics* became the Bible in the field and was used by professors the world over to train their students. Indeed, Ramakrishnan lectured out of Schiff's Quantum Mechanics in Madras to his students. Schiff was Chairman of the Physics Department at Stanford University from 1948 to 1966, and so this telegram he sent was on behalf of the whole physics department. Schiff invited Ramakrishnan to visit Stanford for two weeks in 1962. Schiff came to MATSCIENCE in February 1963 and gave a series of lectures on gravitation. Ramakrishnan visited Stanford at the invitation of Schiff later in the sixties on his annual scientific round-the-world trips.

Sent from: 17 Canberra, Australia

Date: 3 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

Heartiest congratulations upon the creation of your new institute STOP The vision of the Government of Madras and your appointment as Director will stimulate those branches of mathematics and theoretical physics to which India has already contributed so much STOP I send greetings and warmest good wishes for the success of your great venture from my colleagues and myself — Mark Oliphant

MARK OLIPHANT

Australian National University
Canberra

COMMENTS: During his visit to Australia in 1954, Alladi Ramakrishnan met the eminent physicist Sir. Mark Oliphant, a former associate of Lord Ernest Rutherford. Professor Oliphant was soon going to be visiting India under the auspices of The Royal Society, and so Alladi Ramakrishnan invited Oliphant to Madras to deliver the Rutherford Memorial Lecture. Oliphant came to Madras in January 1955 and stayed in Ekamra Nivas.

Some years later, Oliphant was appointed Governor of South Australia. In 1973, when Alladi Ramakrishnan was visiting different universities in Australia, he made a trip to Adelaide where he was the guest of Oliphant in the Governor's Mansion!

Sent from: 111 Budapest, Hungary

Date: 12 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

I am very glad that India Government has established in Madras an institute in mathematics and physical sciences in which I am sure important results will be obtained STOP May I wish you and your colleagues great success and in particular may I congratulate you on your appointment as First Director STOP sincerely yours
Lajos Janossy

LAJOS JANOSSY

Eotvos Institute, Budapest

COMMENTS: Alladi Ramakrishnan first met Professor Janossy in the Winter of 1949 in Edinburgh, Scotland, at a conference on modern physics. Ramakrishnan was doing his PhD at the University of Manchester under Professor Bartlett at that time. In Edinburgh, Ramakrishnan heard the lecture of Janossy and noticed strong connections between his own work on product densities and that of Janossy*. Ramakrishnan was invited to talks at Dublin where Janossy was at that time. Janossy later returned to Hungary and became the Director of the Eotvos Institute in Budapest. After Ramakrishnan began the Theoretical Physics Seminar in Madras, he invited Professor Janossy to address the seminar and meet his students.

*Alladi Ramakrishnan, "A note on Janossy's model of a nucleon cascade", *The Proceedings of the Cambridge Philosophical Society*, **48** (1952), 451-456.

Sent from: 186 Cleveland, Ohio

Date: 4 Jan, 1962

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

I look forward with great interest to the new and creative ideas that will be discovered by your countrymen at the new Institute of Mathematical Sciences. My congratulations to you Alladi and to those of your government who have made the institute possible — Bayard Rankin

BAYARD RANKIN

Case Western University, Cleveland, Ohio

Sent from: 13 Cambridge, Massachusetts

Date: 30 Dec, 1961

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

My warmest congratulations on your appointment as Director of the Institute of Mathematical sciences and my best wishes for the success of the Institute which I am sure will play a most important role in the development of scientific research in India, Sincerely B. B. Rossi

BRUNO ROSSI

Department of Physics, MIT

COMMENT: Alladi Ramakrishnan met Professors Rankin and Rossi at the Massachusetts Institute of Technology in 1956 where he gave talks in the Norbert Weiner Seminar. Rankin had received his PhD in 1955 from Berkeley and his thesis was on stochastic processes and its uses in cascade theory which was an area in which Ramakrishnan had done considerable work. Thus it was natural for Rankin to be much interested in Ramakrishnan's work and invite him to a seminar at MIT. Rankin subsequently moved to Case Western University which is where he was when he sent the telegram. Rankin is known for the book "Differential space, quantum systems and prediction" that he edited with Norbert Weiner and published by the MIT Press in 1966.

Bruno Rossi was a famous experimental physicist who made notable contributions to cosmic rays and particle physics. He was interested in Ramakrishnan's work on cosmic rays. Rossi made his first major discoveries on cosmic rays in Florence, Italy in 1928. He moved to the United States in 1939 to escape the persecution of the fascist regime. He was first at the University of Chicago but then was appointed at MIT in 1946 as Professor of Physics. He was subsequently made Institute Professor at MIT in 1965. He was a Member of the National Academy of Sciences and won the Wolf Prize in Physics in 1987.

Sent from: 190 Pasadena, California

Date: 30 Dec, 1961

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

Please accept my congratulations on occasion of the founding of Institute of Mathematical Sciences of the University of Madras and on your appointment as its Director. My colleagues at the Mt. Wilson and Palomar observatories and the California Institute of Technology join me in wishing you the best of success — Guido Munch

GUIDO MUNCH

CALTECH, Pasadena, California

COMMENT: Guido Munch was an astrophysicist who worked with the great Subrahmanyam Chandrasekhar at the famous Yerkes Observatory outside Chicago in the 1940s. Munch hailed from Mexico. He received his PhD from Chicago in 1946. Munch was on the faculty of the California Institute of Technology (Caltech) in Pasadena from 1953 onwards and was associated with both the Mt. Wilson and Palomar observatories outside Los Angeles. Munch was elected to the American Academy of Arts and Sciences in 1962.

Alladi Ramakrishnan became interested in applications of stochastic processes to astrophysics and therefore corresponded with Chandrasekhar in the early fifties. During his first academic world tour of 1956, Ramakrishnan was travelling east bound, and therefore he met Guido Munch first in California and later Chandrasekhar in Chicago. Ramakrishnan published a series of papers in the *Astrophysical Journal* all communicated by Chandrasekhar who was the Managing Editor of that journal. Two of the papers* were on an integral equation of Chandrasekhar and Munch. In his second academic round-the-world tour of 1962, when Ramakrishnan had an extended stay at the RAND Corporation in Santa Monica, he visited Mt. Wilson again at the invitation of Guido Munch.

In his telegram, Munch refers to the Institute of Mathematical Sciences as being part of the University of Madras. This is incorrect. MATSCIENCE was a separate institute, and still is, funded by the Department of Atomic Energy and the Government of Madras. Alladi Ramakrishnan was Professor of Physics at the University of Madras prior to being appointed Director of MATSCIENCE, and Munch must have been misled by that connection.

*1) A. Ramakrishnan and P. M. Mathews, "On an integral equation of Chandrasekhar and Munch", *Astrophysical J.* **115** (1952), 141-144.

2) A. Ramakrishnan and P. M. Mathews, "On the solution of an integral equation of Chandrasekhar and Munch", *Astrophysical J.* **119** (1954), 81-90.

Sent from: 199 Boulder, Colorado

Date: 31 Dec, 1961

To: Prof. Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore,

Best wishes to Madras Institute of Mathematical Sciences and its First Director — from George Gamow and all phycisists of the University of Colorado

GEORGE GAMOW

Department of Physics

University of Colorado at Boulder

COMMENT: Professor George Gamow lectured in Alladi Ramakrishnan's Theoretical Physics Seminar in December 1959. Gamow was not only an eminent researcher in physics, but a great expositor, who by his books reached out to students of all ages.

Ramakrishnan visited the University of Colorado several times in the sixties to participate in physics conferences and also to deliver colloquia in the physics department there. Thus he had several contacts in the physics department at Boulder.

Sent from: 347 Washington DC

Date: 28 December, 1961

To: Professor Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

Heartiest congratulations on the inauguration of The Institute of Mathematical Sciences in Madras PERIOD I am confident that it will shine like a beacon illuminating the progress of physics in India PERIOD The province and the University are to be congratulated on persuading so able a scientist to serve as Director PERIOD — Dr. Maurice M. Shapiro

MAURICE M. SHAPIRO

Superintendent - Nucleonics Division
Naval Research Laboratory

COMMENTS: Maurice Shapiro was a veteran of the famous Manhattan Project directed by Robert Oppenheimer at Los Alamos. He had a long and distinguished career in the field of cosmic rays and neutrino astrophysics. He founded the Cosmic Ray Laboratory at the Naval Research Laboratories in Washington D.C. and was there for the remainder of his life. Shapiro was very much interested in Alladi Ramakrishnan's work on cosmic rays. When Ramakrishnan was on a round-the-world scientific trip in 1956, Shapiro invited him to lecture at the Naval Research Labs. Thus began the fruitful contact with Shapiro. In 1957-58, when Ramakrishnan was visiting the Institute for Advanced Study in Princeton, Shapiro invited him to lecture in Washington D.C.

Shapiro visited India in 1961 and lectured at the Theoretical Physics Seminar. When Alladi Ramakrishnan introduced Shapiro to the Minister for Education Mr. C. Subramaniam, Shapiro told the Minister how impressed he was with the theoretical physics seminar, and that it would be in the best interests of Indian science to start a new institute as envisioned by Ramakrishnan. Shapiro told Subramaniam that watching the students at work in Ekamra Nivas reminded him of the manner in which scientists gathered round Oppenheimer at Los Alamos! That was a high and generous tribute which made a great impression on Subramaniam. Shapiro went on to suggest that the students should meet the Prime Minister of India. Thus Shapiro's input was crucial in the launching of MATSCIENCE. Shapiro visited MATSCIENCE in December 1963, and also in the seventies. After the creation of MATSCIENCE, Alladi Ramakrishnan visited the United States annually, and Shapiro regularly invited him to lecture at the Naval Research Labs.

Sent from: 130 Sydney

Date: 28 December, 1961

To: Alladi Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras, India

Sincerest best wishes from the school of physics University of Sydney, Australia to the new Institute of Mathematical Sciences in Madras STOP We look forward to many significant contributions coming from it
 — Professor Messel

HARRY MESSEL

University of Sydney

COMMENTS: Alladi Ramakrishnan first met Harry Messel in Dublin in the winter of 1949 when he went there at the invitation of Professor Janossy to deliver a lecture on stochastic processes. Ramakrishnan was, at that time, a PhD student at the University of Manchester working under Professor M. S. Bartlett. Messel was working under Janossy. Ramakrishnan and Messel became very good friends and had common research interests on cosmic rays. Messel then went to Australia where he took a permanent position in Sydney. After Ramakrishnan returned to India from England and was at the University of Madras, Messel invited him to Sydney in 1954. In return, Ramakrishnan invited Messel to Madras and to the Theoretical Physics Seminar in 1957.

It was the notes for the lectures that Alladi Ramakrishnan gave at Sydney that became the basis of his Handbuch der Physik article of 1959. Also, the lectures in Sydney led Alladi Ramakrishnan to novel interpretations of integrals of random functions.*

*Alladi Ramakrishnan, "Phenomenological interpretation of the integrals of a class of random functions", *Proc. Koninkl. Netherlands Akad.* **58** (=Indag. Math., **17**) (1955), 470-482.

Alladi Ramakrishnan, "Phenomenological interpretation of the integrals of a class of random functions - II", *Proc. Koninkl. Netherlands Akad.* **58** (=Indag. Math., **17**) (1955), 634-645.

Alladi Ramakrishnan, "Processes represented as integrals of a class of random functions", *Proc. Koninkl. Netherlands Akad.* **59** (=Indag. Math., **18**) (1956), 121-127.

Sent from: 367 Geneve RSQ

Date: 28 December, 1961

To: Alladi Ramakrishnan, 27 Luz, Mylapore, Madras, India

Delighted to hear creation Institute of Mathematical Sciences and your appointment STOP This is good news for the future of science in India STOP Congratulations and best wishes for future from all at CERN — Weisskopf

VICTOR WEISSKOPF
CERNLAB

COMMENTS: Victor Weisskopf, a world renowned physicist, did his PhD in 1931 under the guidance of Nobel laureates Max Born and Eugene Wigner. He then proceeded to do his post-doctoral work with Nobel laureates Werner Heisenberg, Erwin Schrodinger, Wolfgang Pauli and Niels Bohr. He worked on the Manhattan project that produced the atom bomb. After World War II, he was Professor at MIT. Among his students there was Murray Gell Mann who later won the Nobel Prize. During 1961-66, Weisskopf was Director-General of CERN outside Geneva in Switzerland where one of the famous accelerators is located. Weisskopf was awarded the National Medal of Science in 1972 and the Wolf Prize in 1981.

Alladi Ramakrishnan interacted with Weisskopf when he attended international high energy physics conferences in Rochester in 1956 and elsewhere. This telegram was sent by Weisskopf when he was Director-General in CERN. Alladi Ramakrishnan visited CERN several times in the sixties, first in 1960, and later in 1965 when Weisskopf was Director-General there. Weisskopf visited MATSCIENCE in January 1964 and inaugurated its Second Anniversary Symposium.

NOTE: Instead of a telegram, Professor Pais sent a latter:

From: The Institute for Advanced Study
Princeton, New Jersey
School of Mathematics

Date: January 9, 1962

To: Professor Alladi Ramakrishnan
Ekamra Nivas
27, Luz, Mulapore
Madras, India

Dear Professor Ramakrishnan,

As I have been away on vacation for a few weeks, it is only now that I find your kind letter of December 23, and I profoundly regret not to have been able to answer you earlier.

I would like to send you all my good wishes for the new Institute of Mathematical sciences of which you are to be the first Director. I have every hope and expectation that this Institute may further increase the important role which mathematicians and mathematical physicists of your country have played and are playing in science. I would expect that there are vast and untapped sources of spiritual energy in your country which can be made to flourish by Institutes of the kind which the Government of Madras has now decided to sponsor.

I shall be glad to be of help in any way to your Institute. With kindest regards,

Yours sincerely,

Abraham Pais

PS: Would you kindly inform me of the precise address of the Institute so that scientific material from our Institute can be sent there?

COMMENT: Abraham Pais, a very eminent physicist, was also a science historian. Born in the Netherlands, Pais did his doctoral work under the world renowned L. Rosenfeld at Utrecht. His PhD work attracted the attention of Niels Bohr and Pais served as Bohr's assistant for a few years. In 1947, Pais moved to the Institute for Advanced Study in Princeton where he became Albert Einstein's colleague. Among his major contributions to physics was his explanation of certain puzzling properties of strange particles, which together with the ideas of Murray Gell Mann led to formulation of the quantum number called *strangeness*.

Alladi Ramakrishnan visited the Institute for Advanced Study in 1957-58 and got to know Abraham Pais quite well. Ramakrishnan attended over one hundred seminars at the Institute including those of Pais and Sam Treiman on weak interactions.

Sent from: 168 Kobenhavn

Date: 29 December, 1961

To: Professor Alladi Ramakrishnan, 27 Luz, Mylapore, Madras

Heartiest congratulations and very best wishes of long fruitful activity to new institute and its director. — Rosenfeld

L. ROSENFELD

COMMENT: Leon Rosenfeld, a Belgian physicist from Liege, was a collaborator of Niels Bohr. He did very fundamental work in quantum electrodynamics predating Dirac. Rosenfeld succeeded George Uhlenbeck as professor of theoretical physics at the University of Utrecht in Holland in 1940. Among his notable students at Utrecht was physicist Abraham Pais. In 1947 he was appointed as Professor of Theoretical Physics at the University of Manchester. After serving in Manchester, he moved to Copenhagen.

As a PhD student at the University of Manchester during 1949-51, Alladi Ramakrishnan heard a course of lectures by Professor Rosenfeld on nuclear physics. Later Ramakrishnan met Rosenfeld in Copenhagen during a visit to the Copenhagen Institute in 1960 at the invitation of its Director Niels Bohr. Rosenfeld visited MATSCIENCE as the First Niels Bohr Visiting Professor in 1963-64. Upon arrival in Madras, Rosenfeld said that he had not attended a single conference in Europe in the last year without meeting someone or the other who had not visited, or was planning to visit, MATSCIENCE. Such was the flow of visiting scientists even in the very first years of the Institute. Professor Rosenfeld expressed surprise at the very small and humble accommodations of the Institute which had such an outstanding program of visitors. Rosenfeld delivered the opening lecture of the Second Anniversary Symposium of MATSCIENCE and spoke about Bohr's contribution to twentieth century physics.

Sent from: 397 London
Date: 29 December, 1961
To: Ramakrishnan, Ekamra Nivas, 27 Luz, Mylapore, Madras

*From Lighthill RAE All good wishes on the auspicious foundation
of the Institute of Mathematical Sciences under your able direction —
AVMIN*

M. J. LIGHTHILL
Royal Aircraft Establishment
Farnborough, England

COMMENT: Sir James Lighthill (FRS) was one of the most eminent and productive applied mathematicians in England. He held the Beyer Chair at the University of Manchester during 1946-49. As a PhD student in 1949-51 at Manchester, Alladi Ramakrishnan heard over one hundred lectures of Lighthill on methods of mathematical physics. In return, Lighthill appreciated Ramakrishnan's new method of product densities in the theory of probability. Thus began a long friendship between Ramakrishnan and Lighthill and the two had a mutual admiration for their research and professional contributions.

Lighthill was one of the last visitors to the Theoretical Physics Seminar in November 1961, and endorsed the creation of MATSCIENCE when he met Education Minister C. Subramaniam at Ekamra Nivas. He was at that time Director of the Royal Aircraft Establishment in Farnborough from where this telegram was sent. AVMIN in the telegram probably refers to Aviation Ministry.

Lighthill was an acknowledged world authority on aeroacoustics and fluid mechanics. His recognitions include the Royal Medal (1964) and the Copley Medal (1998). In 1964 he was appointed the Royal Society Resident Professor at Imperial College, London. At his invitation, Alladi Ramakrishnan visited Imperial College in 1965. Lighthill later served as Lucasian Professor of Mathematics at Trinity College, Cambridge. Ramakrishnan visited Lighthill in Cambridge in 1975 and he (Lighthill) arranged a meeting for Ramakrishnan with Professor Alan Baker at Cambridge; Ramakrishnan wanted to meet Baker to get his advice for Krishna who in 1975 was going to UCLA for his PhD. When Lighthill retired from the Lucasian Professorship in 1979, that Chair was filled by Stephen Hawking. Lighthill then became Provost of the University College, London.

Lighthill founded the Institute of Mathematics and its Applications (IMA) in 1964, a professional body for mathematicians and a learned society in England.

Sent from: 88 Oxford

Date: 2 January, 1962

To: Professor Alladi Ramakrishnan, Director, The Institute of Mathematical sciences, Ekamra Nivas, 27 Luz, Mylapore, Madras

On behalf of the press and our many distinguished international editorial boards, I send you our congratulations and best wishes for the future on the occasion of the inauguration of your new and important Institute STOP The establishment of this Institute shows great vision and bodes well for the new scientific generation of India STOP I am certain that the creative work that will be done at your institute will not only benefit India but the world STOP Kindest regards and best wishes — Maxwell, Publisher at Pergamon Press.

CAPTAIN MAXWELL

Pergamon Press

Oxford, England

COMMENT: With so much work done by Alladi Ramakrishnan and his students on the method of product densities and its applications, as well as on the theory of elementary particles and cosmic rays starting from 1950, it was only natural for Ramakrishnan to consider writing a book. The first was a comprehensive 1959 survey by Ramakrishnan in the Handbuch der Physik (Springer) on probabilistic methods stemming from product densities. This was followed by the book “Elementary particles and cosmic rays” published by the Pergamon Press, Oxford, in late 1962. During his 1960 trip to Europe, Alladi Ramakrishnan visited Oxford University at the invitation of Professor D. G. Kendall, and during this visit he met Captain Maxwell, Publisher of the Pergamon Press at Oxford. Maxwell then extended a book contract to Ramakrishnan. The book came to print in late 1962 after the birth of MATSCIENCE.
