

## **Curriculum Vitae of VASUDEVAN SRINIVAS**

**Born 6th June, 1958 at Delhi, India, Indian citizen**

**Present position:** College of Arts and Science Endowed Professor  
Department of Mathematics, SUNY at Buffalo

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### **Previous positions:**

- i) Member, Institute for Advanced Study, Princeton (June-December 1982)
- ii) Professor, School of Mathematics, Tata Institute of Fundamental Research  
Mumbai, India (employed from January, 1983 until June, 2023; Distinguished Professor since 2016).
- iii) Professor on contract, Indian Institute of Technology, Bombay (July, 2023 to January, 2024)

### **Education:**

B.Sc., 1977, St. Joseph's College, Bangalore University, Bangalore, India: M.S., 1978,  
and Ph.D., 1982, University of Chicago, Chicago, IL., USA.

**Research field:** Mathematics - Algebraic Geometry.

Subfields of interest (i) Algebraic cycles (ii) Commutative Algebra (iii) Characteristic  $p$  methods  
(iv) Algebraic K-theory

### **Some Visiting positions held:**

Institute for Advanced Study (Princeton), Duke University (Durham), Northeastern University (Boston), University of Utah, University of Chicago, Math. Sciences Research Institute (Berkeley), University of Michigan (Ann Arbor), USA; Max Planck Institute (Bonn), University of Essen, and Freie University, Berlin, Germany; Universite Paris Sud (Orsay), and Universite Paris VII, France; UNAM and UAM (Mexico).

### **Awards and distinctions:**

- (i) Indian National Science Academy Medal for Young Scientists, 1987;  
elected Fellow of Indian Academy of Sciences, 1994
- (ii) B. M. Birla Science Award received in 1995
- (iii) Swarnajayanthi Fellowship, 1998 (part of the inaugural group of Fellows)
- (iv) S. S. Bhatnagar Prize, 2003
- (v) J.C.Bose National Fellowship, 2008
- (vi) The World Academy of Science (TWAS) Mathematics Prize, 2008
- (vii) elected Fellow of Indian National Science Academy (INSA), 2008
- (viii) Invited speaker at the International Congress of Mathematicians, ICM 2010
- (ix) Elected Member at Large (2011-2014), Executive Committee, International Mathematical Union; re-elected Member at Large (2015-2018)
- (x) Selected as Member of Inaugural Class of Fellows of the American Mathematical Society, 2013
- (xi) Humboldt Research Award (Humboldt Forschungspreis) 2013
- (xii) Elected Fellow of The World Academy of Science (2014)
- (xiii) Einstein Visiting Fellow, FU, Berlin (2016-2019)
- (xiv) International Review Panel member, Peking University School of Math. Sciences and Beijing International Research Centre (2017)

- (xv) DFG-Mercator Fellowship, Univ. of Duisburg-Essen, 2020-2024
- (xvi) Member, IMU Nominating Committee, International Congress of Mathematicians, ICM 2022
- (xvii) Member, Panel for Algebraic and Complex Geometry, ICM 2022.

### **Present Editorial Board Memberships:**

- (i) Algebra and Number Theory ([www.jant.org](http://www.jant.org)).
- (ii) Journal of Algebra ( [www.sciencedirect.com/science/journal/00218693](http://www.sciencedirect.com/science/journal/00218693))
- (iii) Mathematische Annalen ([www.springerlink.com/content/100442/](http://www.springerlink.com/content/100442/))

### **Recent invited lectures:**

- (i) Plenary lecture at International Congress of Basic Science, 2024, Beijing Institute of Mathematical Sciences and Applications, 07/18/2024.
- (ii) Seminar lecture at Princeton University, 10/01/2024.
- (iii) Seminar Lecture at SUNY, Stony Brook, 10/16/2024.
- (iv) Colloquium lecture at the Kerala School of Mathematics, Kozhikode, Kerala, India, 01/03/2025.
- (v) Colloquium lecture, Tata Institute of Fundamental Research, Mumbai, India, 01/09/2025.
- (vi) Invited lecture at conference Algebraic Geometry: A Motivic View, at Eidgenössische Technische Hochschule (ETH) Zürich, Switzerland, 01/15/2025.
- (vii) Seminar lecture at the University of Chicago, 02/21/2025.
- (viii) Invited lecture at conference Geometric Aspects of Algebraic Varieties at Indian Institute of Science Education and Research (IISER), Mohali, India, 03/17/2025.
- (ix) Seminar lecture in Harvard-MIT Algebraic Geometry Seminar, at Harvard University, 04/15/2025.
- (x) Invited lecture at conference Arithmetic, K-theory and Algebraic cycles, Ohio State University, 05/29/2025.

### **Some earlier invited lectures:**

- 1) “Frobenius action on local cohomology and the Hodge filtration”, in “Commutative algebra and singularity theory, 2014”, Toyama, Japan, 29 July 2014.
- 2) “Etale motivic cohomology and algebraic cycles”, in “Workshop on Chow groups, motives, and derived categories”, Institute for Advanced Study, Princeton, USA, 9 March 2015.
- 3) “Etale motivic cohomology and algebraic cycles”, Algebraic Geometry seminar, University of Chicago, Chicago, IL, USA, 21 Jan. 2015.
- 4) “Etale Motivic cohomology and algebraic cycles”, Algebraic Geometry seminar, Duke University, Durham, NC, USA, 18 Feb. 2015.
- 5) “Algebraic versus topological entropy for surfaces over finite fields”, Algebraic Geometry seminar, UNC at Chapel Hill, NC, USA, 19 Feb. 2015.
- 6) “Etale motivic cohomology and algebraic cycles”, Algebraic Geometry seminar, Stanford University, Palo Alto, CA, USA, 27 Feb. 2015
- 7) “Simply connected varieties in characteristic  $p$ ”, Harvard-MIT Algebraic Geometry Seminar, Boston, MA, USA, 3 March 2015.
- 8) “Etale Motivic cohomology and algebraic cycles”, Algebraic Geometry seminar, Univ. of Pennsylvania, Philadelphia, PA, USA, 20 March 2015.
- 9) “Etale Motivic cohomology and algebraic cycles”, Algebraic Geometry seminar, Columbia University, New York, NY, USA, 3 April 2015.
- 10) “Complete intersection points on affine varieties and 0-cycles” in the Eightieth Annual Meeting of the Chinese Math. Society, Capital Normal University, Beijing, 23 Nov. 2015.
- 11) “What are the Bloch-Beilinson Conjectures?”, IMU Colloquium Lecture, Research Institute of Mathematical Sciences (RIMS), Kyoto, 30th March, 2016.

- 12) “Stratified vector bundles on simply connected varieties in positive characteristic  $p > 0$ ”, IMU Special seminar, RIMS, Kyoto, Japan, 4th April, 2016.
- 13) “Abelian varieties and theta functions associated to compact Riemannian manifolds: constructions inspired by superstring theory”, at event “Day of Algebraic and Arithmetic Geometry”, Berlin-Brandenburgische Akademie der Wissenschaften, Leibniz Saal, 20th May, 2016.
- 14) “Stratified vector bundles on simply connected varieties in positive characteristic”, in conference “Higher Dimensional Algebraic Geometry and Characteristic  $p > 0$ ”, CIRM, Luminy, France, 16th September, 2016.
- 15) A relative version of Gieseker’s problem on stratified vector bundles, in workshop K-Theory and related fields, Hausdorff Centre, Bonn, Germany, 30th June 2017.
- 16) Algebraic versus topological entropy for surfaces over finite fields, in conference Motives and their applications, Euler International Math. Institute, St. Petersburg, Russia, 11th September 2018.
- 17) “Boundedness of Ramification”, in conference The 41st Japan Symposium on Commutative Algebra, Kurashiki, Japan, 28 November 2019.
- 18) “Algebraic versus topological entropy for surfaces over finite fields”, in Séminaire de Géométrie Arithmétique Paris-Pékin-Tokyo, Tokyo University, 20 November 2019.
- 19) “Introduction to Triangular Grothendieck-Witt Groups, after Balmer”, in conference Derived categories and Geometry of Algebraic Varieties, TIFR, Mumbai, 19th Feb. 2020.
- 20) On stratified vector bundles in characteristic  $p > 0$ , invited online IMPANGA lecture, 15 Jan. 2021 (Algebraic Geometry lecture series of the Math Institute of the Polish National Academy).
- 21) On finite presentation for the tame fundamental group, in conference Motives from 1 to 62, Uni. degli Studi di Milano, Milan, Italy, 23-02-22.
- 22) Course of “Mercator Lectures” on theme “Some applications of algebraic cycles to affine algebraic geometry”, at the Essen Campus, Uni. Duisburg-Essen, Germany.
- 23) Lecture in Oberseminar, Math. Dept., Uni. Essen-Duisburg, with title “On finite presentation for the tame fundamental group”, on Jan. 27, 2022.
- 24) “Algebraic versus topological entropy for varieties over finite fields”, Seminar at Washington U., St. Louis, 19-05-2022.
- 25) “On Finite presentation for the tame fundamental group”, Seminar at UCLA, Los Angeles, 21-05-2022.
- 26) “On finite presentation for the tame fundamental group”, in conference Algebraic Geometry and Algebraic K-Theory, Washington Uni., St. Louis, USA 25-05-2022.
- 27) “On Finite presentation for the tame fundamental group”, Seminar at Heibronn Institute (U. Bristol), 08-06-2022.
- 28) “On finite presentation for the tame fundamental group”, in Workshop Algebraic K-theory, motivic cohomology and motivic homotopy theory (KA2W01), Isaac Newton Institute, Cambridge U., 17-06-2022.
- 29) “On Finite presentation for the tame fundamental group”, Seminar at Univ. Genova, Italy, 19-10-2022.
- 30) “On Finite presentation for the tame fundamental group”, Seminar at Scuola Normale, Pisa, Italy, 26-10-2022.
- 31) “Mercator Lectures - Part 2”, series of 3 lectures at Dept. of Math., Essen Campus, U. of Duisburg-Essen, November 2022 (theme: Noether-Lefschetz theorem for the class group, and Kollar’s reconstruction theorem).
- 32) “What are the Bloch-Beilinson Conjectures”, lecture at conference “IMSc - Celebrating 60 Years of Creative Science”, at IMSc, Chennai, 04-01-2023.

### Some lectures available online:

- i) Math. Sciences Research Institute (now SLI), Berkeley, CA (Dec. 3rd, 2002):  
<https://www.msri.org/workshops/197/schedules/982>
- ii) Math. Sciences Research Institute (now SLI), Berkeley, CA (May 7, 2013):  
<https://www.msri.org/workshops/639/schedules/16667>
- iii) Institute for Advanced Study, Princeton, NJ (March 9th, 2015):  
<https://www.ias.edu/video/wcgmdc/2015/0309-VasudevanSrinivas>
- iv) Hausdorff Research Institute for Mathematics, Bonn, Germany (Jul 3, 2017):

<https://www.youtube.com/watch?v=REQFpPT0b6g>

### **Recent teaching:**

- (i) Spring Semester, 2024, Math 735 - Introduction to Algebraic Geometry
- (ii) Fall Semester, 2024, Math 725 - Topics in Complex Analysis: Compact Riemann Surfaces
- (iii) Spring Semester, 2025, Math 719: Advanced Algebra.
- (iv) Fall Semester, 2025, Math 827: Topics in topology - Introduction to algebraic K-theory

### **Some committee/service work at UB:**

- (i) Member, UB Faculty Senate, 2024-25.
- (ii) Departmental Committee memberships: Executive Committee, Workload Committee.
- (iii) Academic mentor and supervisor for Dr. Ankit Rai (Visiting Asst. Prof. at UB).

### **Some External Committee Work:**

Program Action Committee (Math.), Dept. of Science and Technology, India (1994-95); School Advisory Board, Central Univ., Hyderabad (1998-99); UGC Advisory Committee, DSA Program, U. Allahabad (1999-2000); Bhatnagar Award Committee, CSIR; Math. Sectional Committee, Indian Academy of Sci. (2002-2003). Member of National Committee for Math. of INSA (adhering organization to IMU) 2008 to date (ex-officio during 2011-2018, as IMU EC Member); member of F.I.S.T. Committee, Math. Sci., DST. Have been “external expert member” of Faculty Recruitment Committees and Promotion Committees at several institutions. Chairman of the National Board for Higher Mathematics, India (2015-2023); Member of Governing Councils of Harishchandra Research Institute, Prayagraj (Allahabad), and Chennai Mathematical Institute, Chennai, India.

### **Books & Monographs**

- (i) Algebraic K-Theory, Progress in Math. Vol. 90, Birkhäuser, Boston, Inc. (1991) (based on course taught in Mumbai, 1986-87). Second Edition: 1995. Reprinted in Modern Birkhäuser Classic series, 2008.
- (ii) L. Barbieri-Viale and V. Srinivas, Albanese and Picard 1-Motives, Mémoires de la Société Mathématique de France, Vol. 87 (2001) vi+104 pp.
- (iii) Editor, Proceedings of the International Colloquium on Cycles, Motives and Shimura Varieties, Mumbai 2008, Tata Institute of Fundamental Research Studies in Math. (2010), Narosa Publishing House.

### **Ph.D. Theses supervised**

- (i) A. J. Parameswaran, Topics in Singularity Theory, 1991.  
(Postdoc: Humboldt Postdoctoral Fellowship at Kaiserslautern, Germany; last position: Senior Professor, Tata Institute, Mumbai, India – recently retired.)
- (ii) J. G. Biswas, Topics in Algebraic Cycles, 1997.  
(Postdoc: Univ. Essen, Germany/Inst. of Math. Sci, Chennai; present position: Associate Professor, Indian Statistical Institute, Bangalore Centre, India.)
- (iii) Amalendu Krishna, Zero Cycles and K-theory on normal surfaces, 2001.  
(Postdoc: Hedrick Asst. Prof., UCLA; present position: Professor, University of California, Santa Barbara, USA.)
- (iv) Vivek Mallick, Roitman’s theorem for singular projective varieties in arbitrary characteristic, 2008.  
(Postdoc: Centre Recerca Mat., Barcelona/Inst. of Math. Sci., Chennai; present position: Asst. Professor, Indian Institute of Science Education and Research, Pune, India.)
- (v) Ronnie Sebastian, Topics in algebraic geometry, 2011.  
(Postdoc: Humboldt Uni., Berlin, Germany; present position: Assistant Professor, IIT Bombay, India.)

- (vi) Anand Sawant, A 1 connected components of schemes, 2014.  
(Postdoc: Ludwig Maximilian Uni., Munich, Germany; present position: Reader, Tata Institute, Mumbai, India.)
- (vii) K. V. Shuddhodan, Self maps of varieties over finite fields, 2018.  
(Postdoc: Freie Uni., Berlin, Germany; present position: Assistant Professor, University of Notre Dame, USA.)
- (viii) Rakesh Pawar, Action of correspondences on cohomology and 0-cycles, 2017.  
(Postdoc: Uni. Essen-Duisburg, Essen, Germany; present position: postdoctoral fellow, Kerala School of Mathematics, Kozhikode, India.)
- (ix) Marcin Lara, Homotopy exact sequence for the pro-etale fundamental group, 2019 (coadvisor, with H. Esnault).  
(Postdoc: IMPAN, Warsaw; present position: Assistant Professor, IMPAN, Warsaw, Poland.)
- (x) Marco D'Addezio, Monodromy groups in positive characteristics, 2019 (coadvisor, with H. Esnault).  
(Postdoc: Max Planck Inst., Bonn; present position: Charge de Recherche, CNRS, Strasbourg, France.)

### **Some recent publications:**

1. A. Krishna, V. Srinivas, Zero cycles and K-theory on normal surfaces, *Annals of Math.* 156(2002)155-195.
2. P. C. Roberts, V. Srinivas, Modules of finite length and finite projective dimension, *Invent. Math.* 151(2003)1-27.
3. G. V. Ravindra and V. Srinivas, The Grothendieck-Lefschetz theorem for normal projective varieties, *J. Alg. Geom.* 15 (2006) 563-590.
4. A. Rosenschon, V. Srinivas, Algebraic cycles on products of elliptic curves over p-adic fields, *Math. Annalen* 339 (2007) 241-249.
5. V. Srinivas, W. van der Kallen, Finite Schur filtration dimension for modules over an algebra with Schur filtration, *Transform. Groups* 14 (2009) 695–711.
6. J. Fasel, V. Srinivas, Chow-Witt groups and Grothendieck-Witt groups of regular schemes, *Adv. Math.* 221 (2009) 302-329.
7. H. Esnault, V. Srinivas, Algebraic versus topological entropy for surfaces over finite fields, *Osaka J. Math.* 50 (2013) 827-846.
8. S. Bloch, A. Huang, B. H. Lian, V. Srinivas, Sing-Tung Yau, On the holonomic rank problem, *J. Differential Geometry* 97 (2014) 11-35.
9. H. Esnault, V. Srinivas, Simply connected varieties in characteristic  $p > 0$  (with an appendix by J.-B. Bost), *Compositio Math.* 152(2) (2016) 255-287.
10. V. Srinivas, S. Takagi, Nilpotence of Frobenius and the Hodge Filtration, *Adv. Math.* 305 (2017) 456-478.
11. H. Esnault, V. Srinivas, A relative version of Gieseker's problem on stratifications in characteristic  $p > 0$ , *IMRN* (2019) No. 18, 5635-5648.
12. H. Esnault, M. Schusterman, V. Srinivas, Finite presentation for the tame fundamental group, *Selecta Math. (NS)* 28 (2022) No. 2, paper number 37.
13. Madhav Nori, Deepam Patel, Vasudevan Srinivas, Enriched Hodge Structures and Cycles on Complex Analytic Thickenings, in A. Albano et al. (eds.), *Perspectives on Four Decades of Algebraic Geometry, Volume 2, Progress in Mathematics 352*, Birkhäuser, Springer-Nature AG, Switzerland (2025), pp 345-390.

### **Additional details on grants, prizes etc.:**

1. Indian National Academy Medal for Young Scientists, 1987: Indian Rs. 5000.00 (about a month's salary then).
2. B. M. Birla Science Prize, 1994: Indian Rs. 50,000.00.

3. Swarnajayanthi Fellowship, 1998: a 5 year grant, for the period 1999-2004, comprising a research fund giving a monthly stipend of Indian Rs. 25000.00, some contingency funds, and funding an international academic visit. (I was in the first batch of awardees of this new award, given out by the Prime Minister.)

4. Shanthi Swaroop Bhatnagar Award, 2003: this is a major mid-career award for Indian scientists, given out by the President of India; the then amount was Indian Rs. 1,00,000.00.

5. J. C. Bose National Fellowship, 2008: this carries an annual research grant, including a monthly stipend, funds for computer equipment etc., domestic academic travel, 1 (annual) international academic visit, and other similar support; it has been renewed every 5 years, after a review (the current grant, Indian Rs. 15,00,000.00 per annum, expires 30th June, 2023).

6. Humboldt Research Award, 2013: this award is given by the Humboldt Research Foundation, set up by the German Government (see <https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/humboldt-research-award>). It is intended for non-German researchers who “are recognised internationally as outstanding researchers in their field and who have had a significant impact on their own discipline and beyond”. It carried a tax-free stipend of €60,000, to fund a research visit to Germany, and business class travel support between India and Germany for me and family. Later it funded a visit by a German colleague to the Tata Institute, to work with me.

7. Einstein Visiting Fellowship, Berlin, 2016-2019: this Fellowship, came with a budget of €450,000.00, including a personal annual stipend of €20,000.00, travel support between Mumbai and Berlin, as well as housing costs in Berlin, for my visits (at least 3, with total stay to be at least 6 weeks, each year); the additional funds were for 2 Ph.D. students and 1 postdoctoral fellow, who would be based in Berlin, and jointly mentored by me (during my visits, and through email etc.) and the local host, Prof. Esnault. Some fund were available for academic travel for the students and postdoctoral fellow, and any professional travel I needed to make while at Berlin.

8. Mercator Fellowship: This is part of the DFG Research Training Group 2553 project at the Uni. Essen-Duisburg, funded by the Deutsche Forschungsgemeinschaft (German equivalent of NSF). The Mercator Fellows make visits of about 4 months, over the 4 year duration of the project, and make contributions to the Graduate Program; the Fellow has travel and accommodation paid by the project, and receives a stipend of €5000 per month (pro rata) during visits. The requested contributions have, so far, been series of 3-4 lectures during each month long visit, and participation in seminars, discussions etc. where graduate students and postdocs are involved. The project ran until the end of August, 2024.

### **Some details of service work:**

I will describe some of my roles in committees etc. in some detail, since these experiences may show other dimensions, beyond my research profile, which may be relevant in the context.

#### **1. Chairman, National Board of Higher Mathematics (April 2015 to March 2023)**

I have Chaired the Board, with about 17 members, including some government officials (finance, and admin.); before that I was a Member for 4 years. The Board is constituted by the Department of Atomic Energy of the Indian Government to oversee support to “higher mathematics”, which has been with this Department since our Independence, more or less (this Department funds the Tata Institute, where I worked then). The Board controls an annual budget ranging between \$ 3.5 and \$ 4 million, depending on available funds. Support provided includes Ph.D and Postdoctoral Fellowships, a few Visiting Professorships, Conference support, Travel support, Project funding. It also runs the Math. Olympiad program at the National level, selecting India’s team for the IMO for example. The Board has also funded Indian delegations to several recent International

Congresses of Mathematicians (ICMs), International Congresses of Industrial and Applied Mathematics (ICIAMs) and International Congresses of Mathematics Education (ICMEs), since India conducted the ICM in 2010 (I can take some credit for making these delegations a “regular” item on our Budget in the last decade). The Ph.D. Fellowships have associated selection exams, held throughout the country, overseen by the Board. The exam results are used by other Indian programs for their Ph.D. program selection processes. Each of these funding streams were managed by subcommittees that I had set up, while my own role was to ensure, through the Board office, that the recommendations made by them did get through the government processes and result in sanction orders. The Board office has a Member-Secretary (usually a Government Official who is a Scientist) and small staff, who handle the routine work, while I had to liaison with the more senior Government officers who control the funds. Occasionally we also had to provide the Department with answers to Parliament Questions, which may have some relation to Science/Mathematics.

## 2. Membership of the IMU Executive Committee (2011-2018)

I have been elected twice to the Executive Committee of the International Mathematical Union (IMU) as a Member at Large nominated by India. This committee conducts the business of the Union, in particular appointing the members various important committees, like the Program Committee of the ICM, and the Prize Committees (Fields Medal, Gauss Prize, etc.). I had some specific tasks as well, like negotiating with the International Union for the History of Science and Technology, to set up terms of reference for the International Commission on the History of Mathematics, a joint commission of the two Unions. This had been functioning without clearly written rules and procedures, and there had been complaints about the appointment and election of new members etc. I managed to get these concluded (with goodwill from a person in the other Union), and terms of reference I co-drafted were ratified by the two executive committees, and then the respective General Assemblies.

Other IMU duties included getting the Ramanujan Prize “back on track” after various delays etc.: this prize, intended for mathematicians working in a developing country, is awarded annually by the IMU and the International Centre for Theoretical Physics (ICTP), Trieste, and a third party (who funds the Prize). This third party was the Abel Foundation, for a couple of years of my first IMU term; there were differences between the A.F. and the ICTP on the eligibility criteria, and on the administration by ICTP, etc. I was appointed to the Prize Jury by IMU, and working internally, and also with ICTP people I knew (who were also newly appointed there, luckily), I could get everything back on track, with events proceeding according to the proper schedule. I also managed the tensions between Abel F. and ICTP for a couple of years, but eventually Abel F. withdrew funding. After a year’s frantic efforts, and with a senior Indian colleague’s intervention at high Government levels, India stepped forward to be the third party, through its Department of Science and Technology. I got the relevant tri-party agreement drafted, with an ICTP colleague, and finally ensured it was signed by all 3 parties. After some initial hiccups with fund transfers from India etc., this has been running smoothly for some years.

A third notable IMU role I played was related to IMU’s plan, along with ICIAM, to set up a committee to rank mathematics journals. This was proposed just before I was elected, and a draft proposal detailing how it was to be done was to be discussed (in my first EC meeting). I was alarmed, and drafted a letter which I sent out by email to around 70 mathematicians, seeking their views on this, through a private response (I was somehow the “IMU representative” for certain fields of math, and wanted the views of community leaders). From the responses, I put together the statistics, and shared them with the EC, along with the raw data. In the end the EC shelved the idea of journal ranking, after hosting a blog (then available at <https://blog.wias-berlin.de/imu-journals/>) where the overwhelming views were against the ranking.

## 3. Committees of the Indian Academy of Sciences (IASc), and of the Indian National Science Academy (INSA).

India, as a large country, has 3 Science Academies with a national character, with IASc started in Bangalore in the south, by Sir C. V. Raman (Nobel laureate, of “Raman Effect” fame), and INSA based in Delhi, which works closely with the Government (it adheres to the IMU, paying the dues, for example, and appoints a National Committee for mathematics). I have served on the INSA National Committee for mathematics, as an appointed member, then ex-officio as an IMU EC member. I have also served on, and later Chaired, its Sectional Committee for mathematical sciences, that scrutinizes nominations for Fellowship, and for certain prizes, and makes recommendations to the Council regarding the math. candidates. Similarly, I have served twice on the Sectional Committee of the IASc, which has a similar role for that Academy. (Though I am an elected Fellow of the 3rd Academy, I have not yet served on their committees.)

#### 4. Committee work at my former Institute.

I was a Mathematics Faculty member, with voting rights, since around 1990, after a tenure process. An early occasion where I played an important role was in the then selection of the Chair, which had been by rotation and seniority for some time. But that time the person who wanted to be Chair, claiming that it was their turn, was not a popular choice. The Senior Faculty present seemed unable to respond to this demand. I spoke up, and insisted that the candidate should enjoy the confidence of the majority, since they would be the bridge with the higher administration. Then others agreed with this, and eventually a vote was taken (another person was elected).

Within the mathematics department I served on many committees, for example the infrastructure committee (persuading the Institute to give us money for facilities like computers, xerox etc.), the Postdoc committee (which I had chaired), the Selection Committee for Ph.D. scholars (selection exams, interviews etc.), the Mathematics Subject Board (which runs the math. graduate program) etc.

Among the Institute committees that I served on over the years, an unusual one was the Academic Ethics Committee of the Tata Institute, then a 3 member body. During my term we had to investigate a complaint about a tenured colleague in mathematics. This was an awkward matter, but it was important to carry out in a manner which was thorough and fair.

Most recently I had been a member of the Group of Distinguished Professors, about 5-6 people. The Group assists the Director of the Tata Institute. It reviews cases for possible promotion to Senior Professor (the next lower rank), which are then processed by the Director and Governing Council. Another task is to make recommendations about which academics who approach the retirement age of 60 can be recommended for extensions (of up to 62, in some cases, and up to 65, in rare cases), and at most 25% of “eligible” people can get this. This was again a delicate and serious task, and involved a lot of responsibility on our part.

### List of publications and preprints

#### Book

Algebraic K-Theory, Progress in Math. Vol. 90, Birkhäuser, Boston, Inc. (1991) (book based on lectures at the Tata Institute in 1986-87). Second Edition: 1995.

#### Papers

In all of the following papers with more than one author, the authors names appear on the paper in alphabetical order, unless mentioned otherwise.

1. Vector bundles on the cone over a curve, *Composito Math.*, 47(1982)249-269.
2. Relative K-theory and vector bundles on certain singular varieties, *Inventiones Math.*,



- 70(1982)1-12 (with K. R. Coombes).
3. A remark on  $K_1$  of an algebraic surface, *Math. Ann.*, 265(1983)335-342 (with K. R. Coombes).
4. Remarks on correspondences and algebraic cycles, *American J. Math.* 105(1983)1235-1253 (with S. Bloch).
5. Zero cycles on certain singular elliptic surfaces, *Compositio Math.*, 52(1984)179-196 (with M. Levine).
6. Zero cycles on a singular surface, I,II, *J. Reine Angewandte Math.*, 359(1985)90-105 and 362(1985)4-27.
7. Grothendieck groups of polynomial and Laurent polynomial rings, *Duke Math. J.*, 53(1986)595-633.
8. Modules of finite length and Chow groups of surfaces with rational double points, *Illinois J. Math.*, 31(1986)36-61.
9. Indecomposable projective modules on affine domains, *Compositio Math.*, 60(1986)115-132.
10. Rational equivalence of zero cycles on normal varieties over  $\mathbb{C}$ , *Proc. Symp. Pure Math.*, American Math. Soc., 46(1987)475-482.
11. Zero cycles on a singular surface: an introduction, in *Vector bundles on algebraic varieties, Bombay Colloquium (1984)* 529-555.
12. On étale coverings of the affine space, *Lect. Notes Math.* 1008, Springer-Verlag (with T.Kambayashi).
13.  $K_1$  of the cone over a curve, *J. Reine Angewandte Math.*, 381(1987)37-50.
14. Varieties in positive characteristic with trivial tangent bundle, *Compositio Math.*, 64(1987)191-212 (with V. B. Mehta; appendix with M. V. Nori).
15. On a paper of S. T. Jensen, unpublished preprint (with V. B. Mehta).
16. Normality of Schubert varieties, *American J. Math.*, 109(1987)987-989 (with V.B.Mehta).
17. Indecomposable projective modules on affine domains, II, *J. Algebra* 122(1989)439-446.
18. Torsion 0-cycles on affine varieties in characteristic  $p$ , *J. Algebra* 120(1989)428-432.
19. A note on Schubert varieties in  $G/P$ , *Math. Annalen* 284(1989)1-5 (with V. B. Mehta).
20. Azumaya algebras with Involutions, *J. Algebra* 130(1990)65-82 (with M. A. Knus and R. Parimala).
21. Normal  $F$ -pure surface singularities, *J. Algebra* 143(1991) 130-143 (with V. B. Mehta).
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