Government of West Bengal
Department of Science & Technology and Biotechnology (DSTBT)
Vigyan Chetana Bhavan, Block-DD, Plot-26/B,
Sector-I Salt Lake, Kolkata-700064

Application Format for Science Popularization Programme

1. Programme Type (ref SN 11 of the Memorandum): **Research School organized by Jadavpur University**

2. Title of the proposed Programme: **A complex Analytic Approach to Differential and Algebraic Geometry**

3. Target Group (Faculty, Teacher, Research Scholar, School/College/ University Student, Community**): Research Scholar and University Students**

4. Duration (days):**12**; Tentative Dates of the proposed Programme**: 02/02/2026-13/02/2026**

5. Aims, Objectives and Details of the Programme (attach separate sheet, if necessary): Attached herewith

6. Name, Designation, Postal Address, mobile no. and e-mail id of the (only one) Programme Co-ordinator (PC) (attach separate sheet, if necessary):
Arindam Bhattacharyya, Professor, Department of Mathematics, Jadavpur University, Kolkata-700032.

7. Legal status of the Institute (School/College/ University/ Institute/ Polytechnic/ ITI/ Autonomous body/ registered NGO/ Trust etc.): **University**

8. Date wise detail Programme Schedule (attach separate sheet, if necessary): **Attached herewith**

9. Collaborating Institutions/ Organizations, if any, with their specific contribution: **Centre International de Mathematics Pures et Appliquees(CIMPA), France, sanctioned 17,000 Euros and International Mathematical Union (IMU), sanctioned 2000 Euros.**

10. Expected number of participants and list of Resource Persons/ Invited Speakers: **80**

    List of the Speakers are attached herewith.

11. Give details of the grant received from DSTBT in last three Financial Years, if any alongwith the date of submission of UC, Audited SoE, Report etc.: **Not Applicable**

12. Name and address of the authority to whom the allotted amount is to be credited (if sanctioned) who will also be responsible for submitting the UC, audited SoE, Programme Completion Report, Feedback, Still and Video photographs etc. of the grant**: Registrar, Jadavpur University.**

13. Total Estimated Expenditure (**A**)/ Organisation's contribution (**B**)/ Contribution from any other sources (**C**) / Grant expected from DSTBT(**D**):
    D : ₹ 2,00,000 = (**A**: ₹21,25,000 – **B**: ₹25,000 – C: ₹19,00,000)
    (provide detail Budget break-up as per Annexure-I and Bank details as per Annexure-II):

Check List (put tick) of attachments to be submitted with the application

- Proposed Total Budget with break-up (Annexure-I) and Bank Details (Annexure-II) in Institute/ Organization's letter head: **YES**
- For registered NGO/ Trust, filled in Application Format recommended by the appropriate Recommending Authority, viz., Jt.BDO/ BDO/ SDO/ DM/ Executive Officer- Municipality/ Commissioner-Municipal Corporation as the case may be (where the programme is actually going to be held): **NA**
- For registered NGO/ Trust, attested copies of the registration certificate, latest renewal certificate, Memorandum and Rules & Regulations of the Organization, last three years Audited Statement of Accounts, Annual Reports etc., List of recommended beneficiaries: **YES/NO**

DECLARATION

Certified that the details furnished in the filled in format are correct to the best of our knowledge & belief and that the amount of financial assistance, if sanctioned, will be utilized for the purpose for which it is granted within the time as prescribed by DSTBT. We also undertake to abide by the General Guidelines and Terms & Condition prescribed by DSTBT and provide due coverage to DSTBT during the Programme and publications/ print and electronic media made from the Programme in future. We also declare that within one month after completion of the Programme we shall submit the Utilisation Certificate (UC), Audited Statement of Expenditure (Audited-SoE), Programme Completion Report, Feedbacks from the Participants, still and video photographs etc.

Signature: Arindam Bhattacharyya

Date: 04/12/2025

Name of Programme Coordinator: ARINDAM BHATTACHARYYA

Designation: Professor

Address: Department of Mathematics, Jadavpur University, Kolkata - 700032, West Bengal

Forwarded
5/12/25
Professor & Head
DEPARTMENT OF MATHEMATICS
Jadavpur University
Kolkata - 700032, West Bengal

Signature: 5/12/25

Date:

Name of Head of the Institution:

Designation: Registrar (Acting) Jadavpur University

Address:

(Office Seal)

Professor
DEPARTMENT OF MATHEMATICS
Jadavpur university
Kolkata - 700032, West Bengal

RECOMMENDATION

(only for registered NGO/ Trust)

Certified that the said Organisation is reputed in this field and I/ we recommend the said proposal for getting grant-in-aid from DSTBT, Govt of West Bengal for the benefit of the local College/ University Students/ Community etc.

5/12/25

Signature:

Date:

Name of Recommending Authority:

Designation:

(Office Seal)

Address:

Annexure-I

Proposed Total Budget with break-ups

A. Total Estimated Expenditure

Sl. No.	Items required with justification and rate	Total Expenditure (A) (₹)
1.	Honorarium to Resource Persons/ Experts	Nil
2.	Study materials, Consumables expenses	80,000.00
3.	Hall rent, if any	20,000.00
4.	Publicity materials	10,000.00
5.	Travel expenses	7,00,000.00
6.	T.A. to the external Resource Persons/ Experts	45,000.00
7.	Documentation expenses including audio-visual	30,000.00
8.	Light refreshments	90,000.00
9.	Auditors' fee	30,000.00
10.	Other expenses, if any (please specify) Accommodation of Participants outside West Bengal	11,20,000.00
Grand Total Expenditure (₹):		21,25,000.00

Please mention:

B. Institution/ Organization Contribution* in ₹ 25,000.

C. Contribution from any other sources (with name & Address) in ₹ 17,00,000 from CIMPA, France and ₹ 2,00,000 from IMU.

D. Grant expected from DSTBT (₹) = (A-B-C) ₹2,00,000

04/12/2025

Signature of Authorised Personnel with seal

Professor
DEPARTMENT OF MATHEMATICS
Jadavpur university
Kolkata - 700032, West Bengal

*At least 10% of the total budget contribution from the Institute/ Organization is desirable

Annexure-II

Bank details of the Applicant Organisation

Name of the Organization	JADAVPUR UNIVERSITY
Bank Account number & name of the Account holder/ Organization	11079699404 & REGISTRAR
Type of Account (Savings or Current A/c)	CURRENT ACCOUNT
Name of the Bank	STATE BANK OF INDIA
Name of the Branch with Branch address	JADAVPUR UNIVERSITY
IFSC of the Branch	SBIN0000093
Mobile Number of the Programme Coordinator/ Head of the Organization	9433949472 / 33 2457 2225
PAN / TAN of the Account holder/ Organization	AAAJJ0500E/CALJ00599E

5/12/25

Signature of Authorised Personnel with seal

Registrar (Acting)
Jadavpur University

5/12/25

Aims and Objectives of the Research School

In this school our focus will be on the study of Differential and Algebraic Geometry from a Complex Analytic perspective. Certain Riemannian and semi-Riemannian objects, as well as various properties of them in a complex context will be analyzed.

Specifically, this school aims at providing the interested post-graduate students, at both a pre-doctoral and a doctoral level, from India and other Asian countries, with the basic notions and some recent ideas and techniques at an advanced stage of current research in a wide spectrum of themes from classical complex analysis, pluripotential theory, geometry of compact complex manifolds and special Hermitian metrics.

The training offer is divided into 4 introductory courses, 3 advanced courses and 2 groups of training sessions. The first introductory course is intended to teach some basic material in complex analysis of several variables upon which all the other courses will build.

The three main themes of this school are interrelated and each of them is first treated in an introductory course that provides the basic notions, ideas and techniques of the subject, and then is given an in-depth illustration through recent results at the forefront of current research in pluripotential theory, with geometric applications, in Kähler and non-Kähler complex geometry and, respectively, in the theory of deformations of complex structures. The planned training sessions are intended to present further examples and exercises illustrating the themes covered in the courses.

Our ambition is to foster the growth of complex analysis and geometry in a part of the world where there has long been a keen interest in these subjects as attested by a strong local tradition. We hope to channel pre-doctoral students into these subjects and to reveal new avenues of research to doctoral students from India and Asia at large.

Expected Impact of the School

We expect this CIMPA school to contribute to the development of Complex Analysis and Geometry across South-Eastern Asia where these subjects are already well represented. Specifically, we expect that, stimulated by this school, many current students based in India and the neighboring countries will pursue PhDs and research careers in these areas.

The planned introductory lectures aim at endowing Masters and PhD students with the basics of Complex Analysis, Pluripotential Theory, Complex Manifold and Vector Bundle Theory and Special Hermitian Metrics. These lectures will hopefully stimulate their taste for these subjects and will lead to PhD thesis, postdocs and other research jobs either in India or other parts of the world.

The planned advanced lectures are intended to present some recent and insightful advances in these subjects to an Indian audience. We expect new research collaborations among and with young Indian mathematicians to materialize as a result of this CIMPA school.

CIMPA-INDIA (JU) Research School-2026 Schedule

Week 1

Monday 2nd February 2026

9:00-9:30: Opening Ceremony
9:30-11:00 Introductory Course 1: St´ephanie Nivoche
11:00-11:30: Coffee break
11:30-13:00 Introductory Course 2: Viviana Del Barco
Lunch Break: 13:00-15:00
15:00-16:30 Introductory Course 1: St´ephanie Nivoche
17:00-18:00 Training Session 1: Sumanjit Sarkar

Tuesday 3rd February 2026

9:00-10:30 Introductory Course 2: Viviana Del Barco
10:30-11:00: Coffee break
11:00-12:30 Introductory Course 1: St´ephanie Nivoche
Lunch Break: 12:30-14:30
14:30-16:00 Introductory Course 2: Viviana Del Barco
16:00-16:30: Coffee break
16:30-17:30 Training Session 1: Sumanjit Sarkar

Wednesday 4th February 2026

9:00-10:30 Introductory Course 1: St´ephanie Nivoche
10:30-11:00: Coffee break
11:00-12:30 Introductory Course 2: Viviana Del Barco
Lunch Break: 12:30-14:30
14:30-16:00 Introductory Course 3: Indranil Biswas
16:00-16:30: Coffee break
16:30-18:00 Introductory Course 4: Slawomir Dinew

Thursday 5th February 2026

9:00-10:30 Introductory Course 3: Indranil Biswas
10:30-11:00: Coffee break
11:00-12:30 Introductory Course 4: Slawomir Dinew
Lunch Break: 12:30-14:30
14:30-16:00 Introductory Course 3: Indranil Biswas
16:00-16:30 : Coffee break
16:30-17:30 Training Session 1: Sumanjit Sarkar

Friday 6th February 2026

9:00-10:30 Introductory Course 4: Slawomir Dinew
10:30-11:00: Coffee break
11:00-12:30 Introductory Course 3: Indranil Biswas
Lunch Break: 12:30-14:30
14:30-16:00 Introductory Course 4: Slawomir Dinew
16:00-16:30 : Coffee break
16:30-17:30 Training Session 1: Sumanjit Sarkar

Week 2

Monday 9th February 2026

9:00-10:30 Advanced Course 1: Dan Popovici
10:30-11:00: Coffee break
11:00-12:30 Advanced Course 2: Nicoletta Tardini
Lunch Break: 12:30-14:30
14:30-15:30 Training Session 2: Jonas Stelzig

Tuesday 10th February 2026

9:00-10:30 Advanced Course 3: Mario Garcia Fernandez
10:30-11:00: Coffee break
11:00-12:30 Advanced Course 1: Dan Popovici
Lunch Break: 12:30-14:30
14:30-16:00 Advanced Course 2: Nicoletta Tardini
16:00-16:30: Coffee break
16:30-17:30 Training Session 2: Jonas Stelzig

Wednesday 11th February 2026

9:00-10:30 Advanced Course 3: Mario Garcia Fernandez
10:30-11:00: Coffee break
11:00-12:30 Advanced Course 1: Dan Popovici
Lunch Break: 12:30-14:30
Afternoon: free

Thursday 12th February 2026

9:00-10:30 Advanced Course 2: Nicoletta Tardini
10:30-11:00: Coffee break
11:00-12:30 Advanced Course 3: Mario Garcia Fernandez
Lunch Break: 12:30-14:30
14:30-16:00 Advanced Course 1: Dan Popovici
16:00-16:30: Coffee break
16:30-18:00 Advanced Course 2: Nicoletta Tardini

Friday 13th February 2026

9:00-10:30 Advanced Course 3: Mario Garcia Fernandez
10:30-11:00: Coffee break
11:00-12:00 Training Session 2: Jonas Stelzig
Lunch Break: 12:30-14:30
14:30-15:30 Training Session 2: Jonas Stelzig

List of key-note Speakers / Resource Persons:

S. No	Name & Designation	Affiliated Department and Institute (with full address)
1.	Stéphanie Nivoche	CNRS and Laboratoire J.-A. Dieudonné U.M.R., 7351, Université Côte d'Azur, Parc Valrose, 06108 Nice Cedex 02, France
2.	Viviana Del Barco	Instituto de Matemática, Estatística e Computação Científica, Universidade Estadual de Campinas Rua Sérgio Buarque de Holanda, 651, 13083-859 Campinas- S˜ao Paulo, Brazil
3.	Slawomir Dinew	Jagiellonian University, ul. Gołębia 24, 31-007 Kraków, Poland.
4.	Dan Popovici	Université Paul Sabatier, Institut de Mathématiques de Toulouse, 118 Route de Narbonne, 31062, Toulouse, France
5.	Nicoletta Tardini	Dipartimento di Scienze Matematiche Fisiche e Informatiche, Plesso di Matematica, Università di Parma, Parco Area delle Scienze, 53/A, 43124 Parma (PR), Italy
6.	Mario Garcia Fernandez	CSIC at Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain
7.	Indranil Biswas	School of Natural Sciences, Shiv Nadar University, Delhi NCR, India
8.	Jonas Stelzig	Mathematisches Institut der Universität München Theresienstr. 39; D-80333 München, Germany
9.	Sumanijit Sarkar	Vignan's Foundation for Science, Technology and Research, Guntur, Andhra Pradesh, India

CIMPA-INDIA(JU) RESEARCH SCHOOL - 2026

On

A Complex Analytic Approach to Differential and Algebraic Geometry

February 2-13, 2026

Department of Mathematics

Jadavpur University, Kolkata-700032, India

In this Research School our focus will be on the study of Differential and Algebraic Geometry from a Complex Analytic perspective. Certain Riemannian and semi-Riemannian objects, as well as various properties of them in a complex context will be analysed.

Specifically, this school aims at providing the interested graduate students, at both a pre-doctoral and a doctoral level, from India and other Asian countries, with the basic notions and some recent ideas and techniques at an advanced stage of current research in a wide spectrum of themes from classical complex analysis, pluripotential theory, geometry of compact complex manifolds and special Hermitian metrics.

Our ambition is to foster the growth of complex analysis and geometry in a part of the world where there has long been a keen interest in these subjects as attested by a strong local tradition. We hope to channel pre-doctoral students into these subjects and to reveal new avenues of research to doctoral students from India and Asia at large.

- **Local Organizer:** Dr. Arindam Bhattacharyya (Professor, Department of Mathematics, Jadavpur University, Kolkata)
- **External Organizer:** Dr. Dan Popovici (Professor, Institut de Mathématiques de Toulouse, Université of Toulouse, France)
- **CIMPA Representative:** Dr. Nicolas Bédaride (Institut de Mathématiques de Marseille, Aix Marseille Université, France)
- **Organising Committee:** Prof. Dr. Subhas Chandra Mandal (Head, Dept. of Maths., Jadavpur University), Prof. Dr. Nandadulal Bairagi (Jadavpur University), Prof. Dr. Gopal Chandra Shit (Jadavpur University), Dr. Nilanjana Mahata (Jadavpur University), Dr. Manasi Mandal (Jadavpur University), Dr. Molla Basir Ahamed (Jadavpur University).
- **Scientific Committee:** Dr. Anna-Maria Fino (Torino, Italy), Dr. Vestislav Apostolov (Montréal, Canada), Dr. Hemangi Madhusudhan Shah (HRI, India), Dr. Shyamal Kumar Hui (Burdwan, India).

School Link: A Complex Analytic Approach to Differential and Algebraic Geometry | CIMPA

Registration Link:

Log in | CIMPA | Application

Last Date for Registration: 1st October, 2025.

Accommodation: Registration for the school is free for all participants. Travel Allowance and Local Hospitality will be provided for the participants from the developing countries outside India and for the Indian participants outside Kolkata.

Expected background for attending this CIMPA School:

-Basic notions in complex analysis in one variable (holomorphic functions; the Cauchy-Riemann equations; the Cauchy formula and its consequences; meromorphic functions).
-Basic notions in differential geometry (real curves and surfaces; real smooth manifolds and vector bundles; the notion of Riemannian metric; connections, such as the Levi-Civita connection, and curvature; definition, basic properties and examples of real Lie groups).
-Basic notions in functional analysis (Fréchet, Banach and Hilbert spaces; weak topologies), a few rudiments in distribution theory and possibly a smattering of subharmonic functions and the standard Laplacian.

The selection of the students attending this CIMPA School will be assessed by their background and the extent to which they satisfy the above requirements.

Topics will be covered in this school:

Week 1: Introductory Courses (2nd February, Monday - 6th February, Friday)

Course 1: Introduction to Several Complex Variables by Stéphanie Nivoche (Université Côte d'Azur, Nice, France).

Course 2: Introduction to Complex Differential Geometry by Viviana Del Barco (Universidade Estadual de Campinas, Brazil).

Course 3: Introduction to Kähler Manifolds by Indranil Biswas (Tata Institute of Fundamental Research, Mumbai, India).

Course 4: Introduction to Pluripotentyial Theory by Slawomir Dinew (Jagiellonian University, Krakow, Poland).

Training session 1: Metrics and connections on almost complex and on Kähler manifolds by Sumanjit Sarkar (Vignan's Foundation for Science, Technology and Research, India).

Week 2: Advanced Courses (9th February, Monday - 13th February, Friday)

Course 1: Theory of Deformations of Complex Structures by Dan Popovici (Université de Toulouse, France).

Course 2: Special Metrics in Complex Geometry by Nicoletta Tardini (Università di Parma, Italy).

Course 3: Mirror Symmetry by Mario Garcia Fernandez (CSIC at Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain).

Training session 2: Deforming Hermitian Metrics by Jonas Stelzig (Mathematisches Institut der Universitat Munchen Theresienstr, Munchen, Germany).

A Visit to Chandannagar, Hoogly, once a French colony in India at the bank of Ganga River will be organized in the weekend. Also, a half-day city tour will be organised for the interested participants.

Cathedral Church

Strand Ghat