

**Winter School on
Arithmetic Algebraic Geometry
23 December 2002 - 1 January 2003**

Time Table

Date	Day	9.30	11.00	12.00	2.30	4.00	5.30
Arithmetic Geometry							
23-12	Mon	Ghorpade 1	Cowsik 1	Ghorpade 2	Cowsik 2	Thakur 1	Video 1
24-12	Tue	Ghorpade 3	Cowsik 3	Thakur 2	Cowsik 4	Thakur 3	Video 2
25-12	Wed	Cowsik 5	Ghorpade 4	Inamdar 1	Ghorpade 5	Biswas 1	Video 3
26-12	Thu	Inamdar 2	Dalawat 1	Inamdar 3	Dalawat 2	Biswas 2	Video 4
27-12	Fri	Biswas 3	Dalawat 3	Biswas 4	Adhikari 1	Dalawat 4	Video 5
28-12	Sat	Biswas 5	Adhikari 2	Patil 1	Inamdar 4	Patil 2	Passi
30-12	Mon	Adhikari 3	Patil 3	Ramana 1	Singh 1	Patil 4	Dalawat 5
31-12	Tue	Singh 2	Katre 1	Ramana 2	Singh 3	Katre 2	Dalawat 6
1-1	Wed	Singh 4	Katre 3	Ramana 3	Prasad 1	Prasad 2	

Speaker	Affiliation	Chap.	Lects.	Title
Arithmetic Geometry: Reference : Bump				
S. R. Ghorpade	IIT Bombay	1-3,5	5	Review & Local algebra
M. Thakur	HRI, Allahabad	4	3	Dimension and products
R. C. Cowsik	Univ. of Mumbai	5	4	Local algebra
			1	Riemann hypothesis for elliptic curves
S. P. Inamdar	ISI Bangalore	6	3	Properties of affine varieties
		9	1	Geometry of ramification
C. S. Dalawat	HRI Allahabad	7	4	Varieties
S. D. Adhikari	HRI Allahabad	9	4	Ramification
J. Biswas	ISI Bangalore	8	2	Complete nonsingular curves
J. Biswas	ISI Bangalore	10	3	Completions
D. P. Patil	IISc Bangalore	11	4	Differentials and residues
B. Singh	IIT Bombay	12	4	Riemann-Roch Theorem
D. Surya Ramana	HRI Allahabad	13	3	Elliptic curves
S. A. Katre	Univ. of Poona	14	3	Zeta function of a curve
Guest Lectures and Video Shows				
R. P. Langlands	IAS, Princeton		4	Videos: Practice of mathematics
C. S. Dalawat	HRI, Allahabad		2	Birch-Swinnerton Dyer Conjecture
I. B. S. Passi	HRI, Allahabad		1	Polynomial maps on groups
D. Prasad	TIFR Bombay		2	Weil Conjectures

**Winter School on
Computational Algebraic Geometry
2 January- 11 January 2003**

Time Table

Date	Day	9.30	11.00	12.00	2.30	4.00	5.30
Preparatory Lectures							
2-1	Thu	Mangala 1	Rao 1	Mangala 2	Rao 2	Nagaraj 1	Raghvendra
3-1	Fri	Rao 3	Mangala 3	Nagraj 2	Mangala 4	Verma 1	Video 6
4-1	Sat	Verma 2	Mangala 5	Rao 4	Verma 3	Nagaraj 3	Video 7
5-1	Sun	Verma 4	Nagaraj 4	Decker 1	Local	sights	2.15-6.15

Speaker	Affiliation	No.	Title
Wolfram Decker	Univ. of Saarland	1	Open Session
Mangala V. Manohar	Mumbai University	5	Groebner Basics
D. S. Nagaraj	Mat Science, Chennai	4	Sheaf Cohomology
R. A. Rao	TIFR Bombay	5	Primary Decomposition
N. Raghvendra	TCS, Hyderabad	1	Elliptic curve cryptography
J. K. Verma	IIT Bombay	4	Invariant Theory

Jan 6-11 Workshop on Computational Algebraic Geometry by W. Decker, University of Saarland and C. Lossen, Univ. of Kaiserlauten, Germany			
Date	Day	Time	Title
6-1	Mon	9.30-10.45	Introduction to Singular and Macaulay 2 I
		11.00-12.15	Introduction to Singular and Macaulay 2 II
		2.00- open	Lab session 1
7-1	Tue	9.30-10.45	Constructive module theory and homological algebra I
		11.00-12.15	Constructive module theory and homological algebra II
		2.00-open	Lab session 2
8-1	Wed	9.30-10.45	Primary decomposition and normalization
		11.00-12.15	Solving systems of polynomial equations
		2.00-open	Lab session 3
9-1	Thu	9.30-10.45	Algorithms in invariant theory
		11.00-12.15	Computing in local rings
		2.00-open	Lab session 4
10-1	Fri	9.30-10.45	Sheaf cohomology and Beilinson monads
		11.00-12.15	Basic Singularity Theory
		2.00-open	Lab session 5
11-1	Sat	9.30-10.45	Applications to algebraic geometry and singularity theory I
		11.00-12.15	Applications to algebraic geometry and singularity theory II
		2.00-open	Lab session 6