



## Centre for Mathematical and Statistical Sciences (CMSS)

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### SERB (DST)-sponsored 11th SERB School on Matrix Methods and Fractional Calculus

(28 April 2014 to 23 May 2014, four weeks)

Organized by the **Centre for Mathematical and Statistical Sciences (CMSS)**  
in collaboration with the **Kerala State Council for Science,  
Technology and Environment (KSCSTE)**, and **Kerala Forest Research Institute (KFRI), Peechi**

Applications are invited to the all-India SERB School; 30 seats, all expenses met by SERB (DST); closing date of applications: **26 February 2014**.

**Eligibility:** Young faculty below 35 years of age, post-doctoral fellows, research scholars, M.Phil. students, and if seats are available then a few M.Sc. graduates and final year M.Sc. students will be admitted.

**Minimum qualification:** B.Sc. (with Mathematics as a subject), M.Sc. degree or final year in M.Sc. programme in Mathematics/Statistics/Theoretical Physics/Theoretical Computer Science. **Desirable:** Exposure to basic probability and statistics and good background in calculus.

**Topics to be covered:** Vector–matrix differential operators, Jacobians of matrix transformations, matrix-variate functions, optimization of quadratic and bilinear forms, multivariate analysis; fractional calculus, fractional differential equations and applications in different disciplines, fractional calculus of matrix-variate functions; generalized inverses and patterned matrices, matrix methods in differential equations, non-linear analysis.

Apply on plain paper to **The Director**, CMSS, with the following details: name, age, male/female, married/single, full postal address, e-mail, phone number, copies (not originals) of all certificates plus permission certificate if employed and send these details to one of the e-mail addresses: [dilipkumar.cms@gmail.com](mailto:dilipkumar.cms@gmail.com) or [naijunt@gmail.com](mailto:naijunt@gmail.com) or [cmspala@gmail.com](mailto:cmspala@gmail.com) or [directorcms458@gmail.com](mailto:directorcms458@gmail.com). Acknowledgement will be sent by e-mail. If acknowledgement by post is needed then enclose a self-addressed empty envelope with Rs 5 stamp affixed.

**Faculty:** Top researchers: Professor F. Mainardi (Italy), H. J. Haubold (Austria), A. M. Mathai (Canada/India), R. Gorenflo (Germany), V. Gejji (India). Additional proposed: Professor R. B. Bapat (India), N. Mukunda (India), Peeyush Chandra (India).

**Lectures:** Monday–Friday; 08.30–10.30, 14.00–16.00. Problem-solving sessions + coffee: 10.30–13.00, 16.00–18.00; no lectures on Saturdays and Sundays; free voluntary training in Tex, Latex, Maple on week-ends; class tests every week, cumulative grades appear in the certificates.

Director