Indian Statistical Institute, Chennai Centre

A Course on Composition Operators

by

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The theory of composition is by definition border-line between abstract operator theory and more concrete analytic function theory. Thus, the course contains the following aspects :

- A reminder of analytic functions : Montel, Hurwitz, Rouche theorems, etc....
- A reminder of Hilbert spaces : Orthonormal bases, unconditional or Riesz bases, etc….
- Complements on discrete dynamics: Theorems of Cartan, Denjoy-Wolff, Julia-Caratheodory, etc.... Poincare metric, automorphisms of the disk. Blaschke products.
- Complements on operator theory on a Hilbert space : Schur's criterion for boundedness, compactness, spectrum. Schmidt decomposition, approximation and singular numbers, Weyl's inequality, etc.... Schatten classes and some of their Banach space properties.
- Hilbert spaces of analytic functions : Reproducing kernel, zeros of functions, Carleson sequences and measures, interpolation sequences, Carleson's embedding theorem, etc…. Hardy, Bergman, Dirichlet spaces. Integral representations of the norm: Littlewood-Paley, Douglas, Carleson, etc….
- Composition operators : Littlewood's subordination principle for subharmonic functions, automatic boundedness of composition operators on H^2, norm estimates. Compactness via Carleson measures or Nevanlinna counting function. Spectrum via Konig's equation. Membership of composition operators in Schatten classes.
- Specific behavior of approximation numbers of composition operators. Comparison with the Hankel case. Open questions.

VENUE

Indian Statistical Institute
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SETS Campus
MGR Knowledge City
C.I.T. Campus
Taramani,
Chennai 600113

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PARTICIPATION & REGISTRATION

Registration is free. The request for participation can be sent to the following address on or before November 22, 2013, by specifying your background in the above topics.

samy@isichennai.res.in
or
karthick@isichennai.res.in

OTHER DETAILS

The number of participants is limited.

Selected outstation participants will be provided accommodation with nominal rates based on the availability.

Selected candidates will be informed via email soon after.

For further information, please visit us at:

www.isichennai.res.in/~cco

About the Speaker: After having worked in the University of Orsay (Paris-Sud), the speaker has been a Professor in Lille University since 1992, and is now emeritus Professor in that University. He has guided several Ph.D students, now Professors in various places. He has also published several research articles in reputed international journals, and the work have been cited by various research-ers. His main interests are: Random methods in Fourier analysis, the analytic theory of Dirichlet series, and composition operators on various Banach spaces of analytic functions.