WORKSHOP IN COMPLEX ANALYSIS AND OPERATOR THEORY

THESSALONIKI, GREECE, JULY 11-16 2010

Main Speakers

D. Girela, Malaga

M. J. Martin, Madrid

Th. Mitsis, Iraklion

M. Papadimitrakis, Iraklion

J. Pau, Barcelona

J. A. Pelaez, Malaga

ORGANIZING COMMITTEE

P. Galanopoulos
M. Papadimitrakis
A. G. Siskakis

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Aristotle University of Thessaloniki
Research Committee
Department of Mathematics
Graduate Program
Division of Analysis

WORKSHOP IN COMPLEX ANALYSIS AND OPERATOR THEORY

Thessaloniki July 11 – 16 2010

PROGRAM

Monday July 12

Morning
10:00 – 10:50 M. Papadimitrakis, **On the minimal space**.
11:00 – 11:30 Break
11:30 – 13:00 Working session
13:30 – 15:00 Lunch

Afternoon
18:00 – 18:50 D. Girela, **Univalent functions and multipliers of Mobius invariant spaces.**
19:00 – 20:30 Working session

Tuesday July 13

Morning
10:00 – 10:50 J. Pau, **Operators on large Bergman spaces.**
11:00 – 11:30 Break
11:30 – 13:00 Working session
13:30 – 15:00 Lunch

Afternoon
18:00 – 18:50 Th. Mitsis, **The size of the constants in reverse Holder Inequalities.**
19:00 – 19:50 M. J. Martin, **On convex harmonic mappings**.

Wednesday July 14

Morning

10:00 – 10:50 J. A. Pelaez, **On the zeros of functions in the Dirichlet space.**
11:00 – 11:30 Break
11:30 – 13:00 Working session
13:30 – 15:00 Lunch

Afternoon

18:00 – 18:50 P. Galanopoulos, **Hankel Operators on Bergman spaces.**
19:00 – 19:30 G. Stylogiannis, **Weighted Composition Operators.**

Thursday July 15

Morning

10:00 – 10:30 A. Arvanitidis, **The Cesaro operator on the Hardy space of the half-plane**.
10:40 – 11:10 S. Pouliasis, **Condenser energy under holomorphic motions.**
11:10 – 11:30 Break
11:30 – 13:00 Open problems session
13:30 – 15:00 Lunch

Afternoon

Free.

Workshop dinner: Thursday at 21:00

Workshop in Complex Analysis and Operator Theory
Thessalonicki, Greece. July 11-16, 2010

Univalent functions and multipliers of Möbius invariant spaces

Daniel Girela

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Abstract

For $1 < p < \infty$, the univalent functions in the analytic Besov space B^p are completely characterized. This is no longer true for $p = 1$ and we shall present a number of conditions on a univalent function which are sufficient for its membership in the minimal Möbius invariant space B^1. We shall also discuss the question of characterizing the pointwise multipliers from B^p to B^q $(1 \leq p, q < \infty)$ paying special attention to the univalent multipliers between these spaces.

This talk is based on a joint work with Petros Galanopoulos and María José Martín.

ON CONVEX HARMONIC MAPPINGS IN THE DISK

María J. Martín
Universidad Autónoma de Madrid

This will be a survey talk on the theory of sense-preserving harmonic mappings in the unit disk $\mathbb{D}$. We will focus on the class C_H of (suitably normalized) *convex* harmonic mappings. While we review the inseparable relationship between the class S of univalent *analytic* functions in $\mathbb{D}$ and C_H, we will show some recent advances on certain open problems related to this family of convex harmonic mappings.

Operators on large Bergman spaces

Jordi Pau

Abstract

We study properties of Hankel and integration operators on large Bergman spaces (weighted Bergman spaces with rapidly decreasing weights). The properties to be discussed are boundedness, compactness and membership in Schatten p-classes.

On the zeros of functions in Dirichlet type spaces

José Ángel Peláez

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The weighted Dirichlet-type space $\mathcal{D}_s$ consists of those analytic functions $f \in H(\mathbb{D})$ for which

$$\|f\|^2_{\mathcal{D}_s} = |f(0)|^2 + \int_{\mathbb{D}} |f'(z)|^2 \, (1-|z|^2)^s \, dA(z) < \infty.$$

In this talk we shall present a number of results on the sequences of zeros for functions in $\mathcal{D}_s$. Among them, we shall prove that if $0 < s < 1$ and a Carleson-Newman sequence $\{z_k\}$ is a $\mathcal{D}_s$-zero set then

$$\int_{\mathbb{T}} \log \left(\sum_n \frac{1-|z_n|^2}{|e^{it} - z_n|^2} \right) dt < \infty.$$

This allows to assert that there are great similarities for this problem in the case 0 ¡ s ¡ 1 with that for the classical Dirichlet space. Joint work with Jordi Pau.