

# OPERATOR THEORY AND FUNCTIONAL ANALYSIS

*Place and time:* In M101 on Friday, Jan 5, at 10:30–12:00  
*Organizers:* Mikael Lindström (Åbo Akademi University)  
Jari Taskinen (University of Helsinki)  
Hans-Olav Tylli (University of Helsinki)  
*Contact email:* [hans-olav.tylli@helsinki.fi](mailto:hans-olav.tylli@helsinki.fi)

## On Bergman projection

JOUNI RÄTTYÄ (*University of Eastern Finland*), [jouni.rattya@uef.fi](mailto:jouni.rattya@uef.fi)

**Abstract.** We consider the question of when the Bergman projection induced by an arbitrary radial weight is bounded and/or onto from the space of bounded measurable functions to the classical Bloch space.

*Joint work with J. A. Peláez.*

## Spectral properties of weighted composition operators on the Bloch and Dirichlet spaces

TED EKLUND (*Åbo Akademi University*), [ted.eklund@abo.fi](mailto:ted.eklund@abo.fi)

**Abstract.** The spectra of invertible weighted composition operators  $uC_\varphi$  on the Bloch and Dirichlet spaces are studied. In the Bloch case we obtain a complete description of the spectrum when  $\varphi$  is a parabolic or elliptic automorphism of the unit disc. In the case of a hyperbolic automorphism  $\varphi$ , exact expressions for the spectral radii of invertible weighted composition operators acting on the Bloch and Dirichlet spaces are derived.

*Joint work with M. Lindström and P. Mleczko.*

## Rigidity of composition operators on the Hardy space $H^p$

HANS-OLAV TYLLI (*University of Helsinki*), [hans-olav.tylli@helsinki.fi](mailto:hans-olav.tylli@helsinki.fi)

**Abstract.** I will describe recent work on the structural rigidity of composition operators  $C_\phi$  on the Hardy spaces  $H^p$  for  $p \neq 2$  in the non-compact range. Here

$$f \mapsto C_\phi(f) = f \circ \phi, \quad f \in H^p,$$

where the fixed analytic map  $\phi : \mathbb{D} \rightarrow \mathbb{D}$ . The main results imply that non-compact  $C_\phi$  have a very restricted range of linear qualitative behaviour compared to that of arbitrary bounded operators on  $H^p$  for  $p \neq 2$  and  $1 < p < \infty$ . In fact, for such composition operators the restrictions to subspaces  $M \subset H^p$  linearly isomorphic to  $\ell^p$  or  $\ell^2$  determine their qualitative properties.

*Joint work with J. Laitila, P. Nieminen and E. Saksman.*