

Announcement

## Seminar on Deformation Quantization

**23. 6. 2023 at 2pm CEST**

Seminarroom SE 30

LUCA UMMINGER (JMU WÜRZBURG)

The star product of Pierre Bieliavsky

In this talk we consider the star product of Pierre Bieliavsky  $u \star_{\hbar} v = \tau_{\hbar}(T_{\hbar}u \star_{\text{Weyl}} T_{\hbar}v)$ . For this we first consider the space  $\tau_{\hbar}(\mathcal{S}(\mathbb{R}^2)) = \mathcal{E}_{\hbar}$  on which the star product is defined. We see that  $\mathcal{E}_{\hbar}$  forms a pre-Hilbert space. Furthermore, we show that the transvection group acts by algebra automorphism on  $(\mathcal{E}_{\hbar}, \star_{\hbar})$  and  $(\mathcal{E}_{\hbar}, \star_{\hbar}^*, \langle \cdot, \cdot \rangle_{L^2(\mathbb{R}^2)})$  forms a Hilbert algebra. Finally, we give an outlook on how the algebra  $(\mathcal{E}_{\hbar}, \star_{\hbar}^*)$  becomes a  $C^*$ -algebra.

Invited by Stefan Waldmann