Nederlandse Natuurkundige Vereniging & Rijksuniversiteit Groningen



De Oosterpoort, Groningen Friday, 7 April 2017

Evening program: Physics and Art

Quantum Sensitivity

Abstract:

Evelina Domnitch and Dmitry Gelfand create immersive art installations and performances integrating hydrodynamic analogues of exotic physical phenomena. The duo will discuss their explorations of acoustically levitated liquids as well as their recent artist residency at LIGO (Laser Interferometer Gravitational Wave Observatory). Gelfand and Domnitch use wave phenomena to investigate questions of perception and infinity. They research these topics because science, which serves as the basis for contemporary thought, cannot fully explain how consciousness works.

FORCE FIELD

Since the 1970s and 80s acoustic levitation techniques have primarily been applied by NASA and ESA to trap and navigate otherwise uncontrollable samples in microgravity. However, in the last two decades the same methods have also been used as a powerful tool for containerless manipulation on Earth. Numerous experiments have been performed in a vast spectrum of research areas, including fluid dynamics, analytical chemistry, atmospheric sciences, molecular biology, and most recently tabletop astrophysics. In *Force Field*, acoustically levitated water droplets resonate, vaporise and reassemble



into spheroids, toroids and oscillating polygons while spinning nearly devoid of shear. The performance simultaneously taps into the 3-dimensionality of sound, the elusive physicality of water, as well as the rotational dynamics of celestial and subatomic bodies.



Evelina Domnitch was born in Minsk, Belarus, 1972. She received a MA in Philosophy from State Belarussian University, 1994. Domnitch forms an artist duo with Dmitry Gelfand (1974, St. Petersburg, Russia), and lives in Amsterdam.

Having dismissed the use of recording and fixative media, Domnitch and Gelfand's installations exist as ever-transforming phenomena offered for observation. Because these rarely seen phenomena take place directly in front of the observer without being intermediated, they often serve to vastly extend the observer's sensory envelope. The immediacy of this experience allows the observer to transcend the illusory distinction between scientific discovery and perceptual expansion.

In order to engage such ephemeral processes, the artists have collaborated with numerous scientific research facilities, including the Drittes Physikalisches Institut (Goettingen University, Germany), the Institute of Advanced Sciences and Technologies (Japan), Ricso Lab (Russia) and the Meurice Institute (Belgium). They are the recipients of several international prizes.

