

# Titles and Abstracts:

## **Thilo Rehren**

*(A.G. Leventis Professor for Archaeological Sciences, Director of the Science and Technology in Archaeology and Culture Research Center, The Cyprus Institute, Cyprus)*

### **3,000 Years of Glassmaking in the Eastern Mediterranean – an Introduction**

Glass is not only the youngest of the three main man-made archaeological materials (ceramic/plaster and metals being the two others), but also the most dazzling in appearance, and most complex in composition. The lecture will provide a brief introduction to glass as a material, focussing then on its production in antiquity, and ways to study it with modern analytical methods. The main purpose of archaeological science analyses of glass is to understand its role within ancient societies, and what we can learn about their organisation, value systems, and economy.

The talk will address the three main periods of glass use in the Eastern Mediterranean and Middle East. Glass appears first during the Late Bronze Age (c 1,600 to 1,000 BCE), as an elite material imitating precious stones, made in highly controlled workshops and with a range of exotic raw materials. After a hiatus of half a millennium, glass re-emerges during the Hellenistic period and continues through to the end of the Byzantine Empire, initially becoming available for the middle class, and finally a mass-produced every-day material of relatively low value. From this, at the end of the 1st millennium CE, glass undergoes an important final transition when it is used for high-end ‘Islamic’ cultural expression and artistic development, alongside a fundamental change in raw material and organisation of the industry at large.

These major developments are discussed in terms of the sometimes contradictory and often very patchy archaeological and scientific evidence that we have, and illustrates how recent research continues to enrich our knowledge of this fascinating substance even after more than a century of scholarly study. The role of what is nowadays Lebanon in this trans-continental history cannot be overestimated, highlighting the enormous research potential still to be explored in ancient glass studies.

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## **Antoine Chaaya**

*(Partner/Director, Renzo Piano Building Workshop, France)*

### **Title: Glass from Science to Poetry**

Light is essential for life in general and for human life in particular. It affects both our physical health & psyche. The major interest of glass is not to obstruct light and view.

The physical composition and properties of glass, is a real science. This highly important factor and selection criteria can influence the quality of light and the glass appearance. It can make it more or less transparent, more or less flat, more and less neutral.

Beyond its functional role of weather conditions protection from wind, rain and sun, the glass can play a major role in expressing poetry in architecture through transparency, lightness and luminosity.

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## **Andrea Liu**

*(Hepburn Professor of Physics, Department of Physics and Astronomy, University of Pennsylvania, USA)*

### **How Glasses Relax and Go With the Flow**

All solids flow at high enough applied stress and melt at high enough temperature. Crystalline solids flow and premelt via localized particle rearrangements that occur preferentially at structural defects known as dislocations. The population of dislocations therefore controls both how crystalline solids flow and how they melt. In glasses, there is considerable evidence that localized particle rearrangements induced by stress or temperature occur at localized flow defects but attempts to identify them directly from structure alone have failed. Here I will introduce a novel application of machine learning data mining methods to diagnose flow defects, or “soft” particles from their local structural environments. We use machine learning to define a quantity, “softness,” that is highly predictive of rearrangements and simplifies our understanding of dynamics considerably in supercooled liquids and glasses.

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## **Koen Vanderstukken**

*(Professor, Studio head of the glass department at Sheridan College and Series consultant for Netflix series “Blown Away”, Canada)*

### **Painters and glass makers - it’s complicated**

In this lecture, I take an unconventional approach to the history of stained glass. The first windows date back to Roman times, but it is during the Romanesque and Gothic period that glass windows became one of the most impressive art forms of their time. The Renaissance, during which art established itself at the level of philosophy, started a downfall for the stained-glass windows in Europe. Painting dominated the next centuries of European art and even played a leading role in the research into artistic values of glass. It’s only at the beginning of the 20th century that stained glass windows would see a revival.

## **Marya Kazoun**

*(Visual Artist, New York - Venice)*

### **Breaking Glass Boundaries**

An introduction by artist Marya Kazoun to an innovative one of a kind Venetian Glass reality: Berengo Studio, Fondazione Berengo and Glasstress, her role in this glass and art journey.

Glass-production company, Berengo Studio that has been working with Murano glass for over three decades, pushing the boundaries of glass making and revolutionizing the centuries-old Venetian tradition of glass-blowing.

She will speak of the Murano glass blowing technique and the newly developed casting methods.

Created with the collaboration of world-renowned artists, the works produced in the studio are beautiful, powerful and contemporary.

Based in the Palazzo Franchetti in the heart of Venice, Fondazione Berengo was founded as a leading institutional voice to introduce glass to the world of contemporary art. The foundation is vital, a force in the international art scene and has created a vibrant community dedicated to enriching the possibilities of artistic practice with glass as well with other mediums.

Glasstress was launched in 2009 as an official collateral event of the Biennale di Venezia. Today it is the world's leading showcase for the collaborative work of contemporary artists with Berengo Studio's Muranese glass masters. Artists of all disciplines from sculptors to musicians have been invited to collaborate with the maestros in creating art in glass.

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## **George Saliba**

*(Professor at the Department of History and Archeology, Jabre Khwarizmi chair in Arabic Science and Philosophy, Director of the Farouk Jabre Center for Arabic and Islamic Science and Philosophy) &*

### **Ahmad Hellani**

*(Department of Chemistry, American University of Beirut, Lebanon)*

### **Deciphering Ancient Texts in a Kiln: Glass Coloring from Cuneiform Tablets to the Jabirian Corpus**

In this presentation, Dr. George Saliba, the director of Farouk Jabre Center for Arabic and Islamic Science and Philosophy at the American University of Beirut, will give us an overview of the work of A. Leo Oppenheim on glass and glassmaking in ancient Mesopotamia. He will show us how the making of glass in the lab in the seventies helped Oppenheim decipher the cuneiform texts that contain instructions for glassmakers. In the same spirit, Dr. Ahmad El-Hellani, an Assistant Research Professor in the Department of Chemistry at AUB, will share with us his experience to reproduce experiments mentioned in the Book of the Hidden Pearl (Kitab Al-Durra Al-Maknuna) by Jabir Ibn Hayyan, recently discovered and assessed by the late Ahmad Y. Al-Hassan. This work is an attempt to verify and authenticate the scientific knowledge and "experimental" spirit at work in the Jabirian corpus.

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## **Nadia Bou Ali**

*(Civilization Studies Program, American University of Beirut, Lebanon)*

### **Cutting Edge: Doppelgangers, Avatars, and the Other**

There is nothing quite like glass when it comes to reflecting on the uncanny. Freud mistook himself for another in a windowpane on a train one evening and the result was his text on the Uncanny (1919). The uncanny, or *unheimlich*, which Freud developed through a reading of Hoffman's Sandman is characterized by an inhuman doll-like automaticity, an inanimate object that acts as though it is animate and generates a sense of intellectual uncertainty. The figure of the Sandman in Hoffman's tale robs one of their own eyes through a process of doubling: Sandman doubles the law, doubles authority, doubles the self in another person, in an Other. This doubling is far from a premodern model of the doubling of the mortal body by an immortal soul. Freud argues that the uncanny double in modernity—the gaze, the reflection—is a harbinger of death and not immortality.

It is not by an accident of allegory that our sea shores today once inspected are an amalgam of petrifying glass and sand, in a way glass is the new sand, the new double which is not nature. One could dwell on the materiality of glass and sand, the problematics of nature, the human and the non-human, a future with or without humanity. However, stating matters as such is ironic if not hyperbolic. We can instead revert to the earliest instances of representation with regards to such a medium: the glass eyes of Medusa strike us with a chilling ability to fracture any image. Freud dwelled on Medusa's gaze, the cold glass eyes that reflect back an image of the self that is so unbearable that it reflects a wish for complete petrification: a destruction of representation. Jacques Lacan formulate his theory of subjectivity based on what he would call "The Mirror Stage In the formation of the I": the mirror image is the metaphor of desire and its un-attainable object-cause. Glass not only signals a problem of representation but also of causality. The psychoanalytic engagement with reflection essentially argues that the ancient model of representation in the "looking glass" appears to be looped into a structure of repetition in our contemporary world: glass capitalism if there is such a thing, transparent egos of free communication, transparent abodes seeking the gaze at any cost... preferably at no cost beyond the fractures of irreparable plates. Representation, causality, and repetition.

Ultimately: when the gaze strikes, glass lies there under the rays of the sun, happily reflecting any destruction. This talk does not seek to fetishize the medium of glass but rather to question the very idea of a medium that transposes an immediacy beyond mediation. The looking glass is not a site for finding anything that is. Lewis Carroll already understood this: in the looking glass there is nothing but a horrifying Other, the Jabberwocky: non-sense. We cannot escape getting mired in the problematics of sense and non-sense: glass is not about what is and isn't, rather it is a medium that flags a limit, a cut, a breaking point for testing reality and how we come to know it.

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## **Mu'tasem Shehaddeh**

*(Department of Mechanical Engineering, American University of Beirut, Lebanon)*

### **On the Mechanical Response of Structural Glass**

This presentation focuses on the mechanical properties of structural glass. The elasto-plastic deformation and fracture mechanisms under static and dynamic loading conditions will be presented. We will also discuss the effect of glass composition on the process of plastic deformation and crack initiation. The microstructural defect features and their interactions with the externally applied loading will be examined. Additionally, finite element simulations of crack initiation and growth under static and impact loading will be discussed. The roles of glass strength and fracture toughness (resistance to crack propagation) on the overall response will be highlighted.