

Press Release

Broad range of studies with products from Heraeus Kulzer show excellent results

Heraeus Kulzer plays an active part in IADR General Session 2015 in Boston

Hanau, April 2015 – From March 11 to March 14, 2015 the IADR General Session, the world's largest congress in dental science, took place in Boston, Massachusetts/USA. During these four days, a total of 3,861 presentations, part lectures, part poster presentations, were delivered. The meeting saw a mixture of students and scientists from different fields of dental research, an estimated 4,000 to 4,500 participants from all over the world attended.

Heraeus Kulzer products showed excellent results in several studies presented during the General Session. They ranged from the latest development, the new universal bonding iBOND Universal, to bulk-fill materials such as Venus Bulk Fill. In addition, Heraeus Kulzer's sponsoring commitment enabled five young scientists from around the world to present their research results in front of this international professional audience. This opportunity arose because they were granted the IADR Heraeus Kulzer Travel Award 2015 in appreciation of their research. They received the award in the course of a ceremony on March 12th, 2015.

Heraeus Kulzer has always taken a particular interest in dental research as a source of inspiration and groundwork for the manufacturing of dental products. As one pillar, scientific research of existing and future products is a huge concern for Heraeus Kulzer. Dental scientists at on-site laboratories constantly monitor the product quality and customer demands. As their findings meet with

interest in the dental world, the scientists regularly present their studies in front of the IADR audience. Dr. Janine Schweppe, Global Scientific Affairs Manager Direct Restorations at Heraeus Kulzer, and her colleagues presented the in-house studies.

In his speech on bond strength evaluations of a new universal adhesive, Astrit Kastrati from Heraeus Kulzer summarised a study he and his co-workers conducted to document the universal character of iBOND Universal. He described the advantages of universal adhesives which are multi-technique capable and show adhesion to different substrates. iBOND Universal was compared to two other universal bondings using shear and microtensile bond strength on different substrates and in different application techniques. He and his colleagues demonstrated the successful use of iBOND Universal both in the self-etch and etch&rinse technique on all tested materials – tooth, metal and zirconia. Kastrati's poster-presentation also focused on iBOND Universal. His topic here was the evaluation of different ceramic pretreatments and their effects on the shear bond strength using the new universal adhesive, iBOND Universal. The topic of Janine Schweppe's poster-presentation also concerned the influence of silicate ceramic pretreatment on shear bond strength of three universal adhesives. The study found glass ceramic pretreatment using a silane primer to have a positive impact on the shear bond strength of all universal adhesives. Yet, iBOND Universal showed the highest shear bond strength values in combination with iBOND Ceramic Primer which needs to be used to silanise silicate ceramics.

In her poster-presentation on the compatibility of universal adhesives with composite cements in different curing-modes, Dr. Maria Lechmann-Dorn was able to not only confirm the compatibility of iBOND Universal to composite luting cements irrespective of the cement curing mode (self- and dual-curing). She and her colleagues also allocated iBOND Universal to be less technique sensitive than other universal adhesives, as it can be applied without an

additional activator for self-cure cementation. In this study, the reliable bond strength of iBOND Universal in combination with a cement in self-cure mode after ageing could also be shown.

Furthermore, clinical studies from different universities all over the world often include products from Heraeus Kulzer, and regularly with excellent results. During the IADR General Session 2015, again several studies were presented to the interested audience. S. S. Lee and colleagues from the Loma Linda University School of Dentistry in California, United States, and Wenzhou Medical University in China investigated the effectiveness of iBOND Self Etch, an all-in-one adhesive from Heraeus Kulzer, in posterior class I and II restorations in a clinical evaluation over a period of 72 months. In this study, the all-in-one self-etch bonding iBOND Self Etch was compared to the etch&rinse adhesive GLUMA Comfort Bond + Desensitizer. None of the patients involved exhibited postoperative sensitivity or an unfavorable gingival response. The study showed comparable results for both iBOND Self Etch and the control group. The scientists affirmed an outstanding clinical performance of the all-in-one adhesive. At the State University of New York in Buffalo/NY in the United States, C. Sabatini examined the bond strength degradation of interfaces treated with glutaraldehyde-containing agents. In this study, GLUMA Desensitizer in combination with iBOND Total Etch, all products coming from Heraeus Kulzer, showed the most stable bond strength values after one year of storage.

During the General Meeting, several studies were presented concerning bulk-fill composites. Among these, Venus Bulk Fill showed excellent results time and again. A study executed by D. Shin and B. Suh in Schaumburg/Illinois in the United States, focused on the polymerisation shrinkage and contraction stress of bulk-fill composites. The scientists found Venus Bulk Fill to have the lowest contraction stress rate after 30 seconds as well as after 60 seconds. This is another important study outcome for Heraeus Kulzer, as a low shrinkage stress

can minimise the risk of marginal gaps, secondary caries or any postoperative affliction. At the University of Turin in Pinerolo in Italy, A. Comba and colleagues looked into the composite resin adaption in post-endodontic restorations in an OCT evaluation. They used a thin layer of Venus Bulk Fill as a first increment in post-endodontic restorations and concluded from their results that, in order to properly seal endodontic access cavities, the application of a flowable composite like Venus Bulk Fill is advisable.

The attention Heraeus Kulzer products regularly attract in studies, along with the excellent results they obtain there, mirror the high quality and competence coming from the Heraeus Kulzer laboratories.



Awardee Eliseu Munchow from the Federal University of Pelotas in Brazil, received the IADR Heraeus Kulzer Travel Award from Dr. Janine Schweppe, Global Scientific Affairs Direct Restorations at Heraeus Kulzer.



Awardee Ahmed Zaghloul from The British University in Cairo/Egypt is framed by Dr. Janine Schweppe (to the left), Global Scientific Affairs Direct Restorations at Heraeus Kulzer, and Prof. Mutlu Öczan, President of the Dental Materials Group (DMG) of the IADR.



Alaa Turkistani (to the right), Tokyo Medical and Dental University in Japan, is congratulated on winning the IADR Heraeus Kulzer Travel Award by Dr. Janine Scheppe, Global Scientific Affairs Direct Restorations at Heraeus Kulzer.



Dongyun Wang (to the right), Academic Center for Dentistry in Amsterdam in the Netherlands received the IADR Heraeus Kulzer Travel Award from Dr. Janine Scheppe, Global Scientific Affairs Direct Restorations at Heraeus Kulzer.



Kyle Serkies, University of Toronto in Ontario/Canada, with Dr. Janine Scheppe (to the left), Global Scientific Affairs Direct Restorations at Heraeus Kulzer, and Prof. Mutlu Özcan, President of the Dental Materials Group (DMG) of the IADR, during the IADR Heraeus Kulzer Travel Award ceremony.

More information about Heraeus Kulzer:

- Website with information on the company and products:
www.heraeus-kulzer.com

- YouTube channel with practical tips and tricks:
www.heraeus-kulzer.com/youtube
- Heraeus Kulzer Facebook page with the latest news from Heraeus Kulzer:
www.facebook.com/heraeuskulzer

About Heraeus Kulzer

Heraeus Kulzer GmbH is one of the world's leading dental companies with its headquarters in Hanau, Germany. As a trusted partner, the company supplies dentists and dental technicians with an extensive product range, covering cosmetic dentistry, tooth preservation, prosthetics, periodontology and digital dentistry. More than 1,500 employees at 26 locations worldwide are driven by their expertise and passion for the dental market and embody what the name Heraeus Kulzer stands for: service, quality and innovation.

Heraeus Kulzer has been part of the Japanese Mitsui Chemicals Group since July 2013. Mitsui Chemicals, Inc. (MCI) is based in Tokyo, and has 137 affiliates with more than 14,300 employees in 27 countries worldwide. Its innovative, practical chemical products are as much in demand in the automotive, electronics and packaging industries as they are in other fields such as environmental protection and healthcare.

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