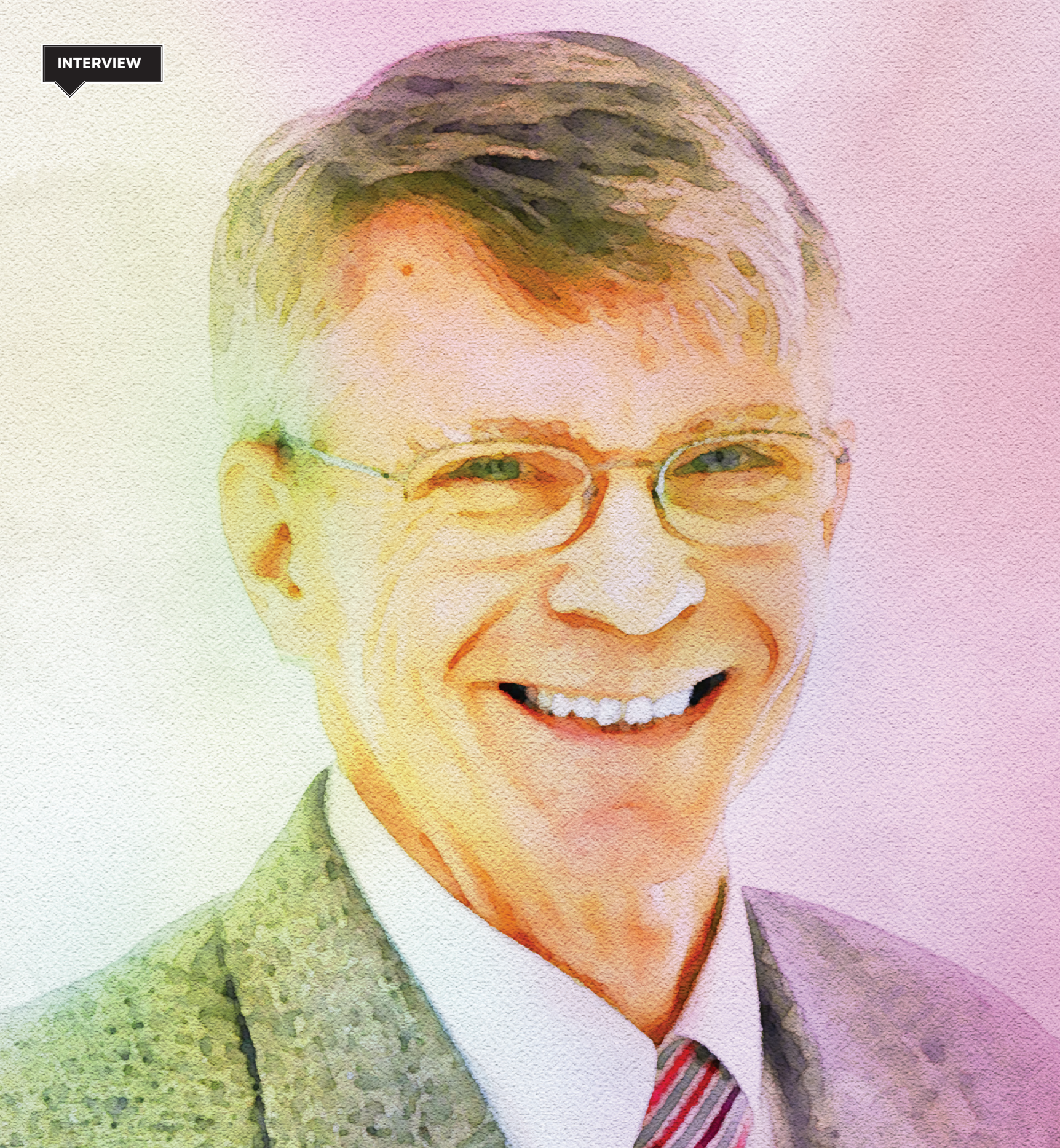

An interview with

Frederick Allen Rueggeberg

INTRODUCTION

Professor **Frederick Allen Rueggeberg** was an outstanding student where he graduated, with great scores received in all the courses he attended. He is currently Director of the Division of Dental Materials, Department of Restorative Sciences, and teacher of undergraduate and postgraduate students at the Dental College of Georgia, University of Augusta, Augusta, Georgia.

His research field is the Restorative Dentistry, being the composites (composite resins, resin cements and other resin-based materials), lights and the polymerization reactions the topics most investigated by him. Dr. Rueggeberg is a notable researcher in these areas, received many awards and presents hundreds of articles published in high scientific impact journals. He has patents, book chapters and has been a speaker in several countries. In addition, he is reviewer and member of the editorial boards of several scientific journals in the dental field and has also provided scientific consulting services to several companies, such as, Ivoclar Vivadent, Kerr Corp., Bisco, 3M, LD Caulk, Ultradent, Discus Dental, GC America, Noritake, Kulzer, among others.

During the 30 years working academically, he has had several students and researchers from all over the world, especially Brazilians, who did researches in his laboratories. This shows the strong cooperation and exchange activities that he has with dentistry worldwide. Regarding Brazilians, he has many friends, people he met in the early 2000s. He visited Brazil several times to participate in meetings, give lectures and do researches in many universities, being the most important trips with financial support from FAPESP, FAEPEX-UNICAMP and CAPES. UNICAMP/SP, USP/SP, UPF/RS, UFC/CE, UNG/SP, UNIOESTE/PR, UEPG/PR and UNIVAP/SP are examples of the universities he knows.

Marcelo Giannini — Interview coordinator

You are a dentist that restored many teeth with amalgam. Tell us your experience with this material. (Vanessa Cavalli Gobbo)

Inexpensive, not technique sensitive, long lasting, materials have a long shelf-life and do not demand any special precautions, if I want, I can "bond" the amalgam, but not necessary, in posterior areas (not in the esthetic zone) is fast to place. However, preparation demands removal of more tooth structure.

How do you perceive the evolution of composite resin in restorative dentistry? (Marcelo Giannini)

At first, a direct, esthetic restorative fir anterior use only. Evolved from power/liquid system (silicate cements), to methyl methacrylates, to unbonded glass-filled resins of dimethacrylate monomers having very large particle sizes. Enamel bonding or marginal areas became accepted, as did use of a bonding agent prior to placing the composite. Covered all underlying dentin with calcium hydroxide to protect pulpal tissues from possible contact with low pH gel. Then, led to all etch systems, with further improvement in reduction of filler particle size to make more esthetic. Big improvements came with use of self-etching bonding resins. Now, composites cure by visible light exposure instead of self-curing, and are available in a wide variety of colors and translucencies, such that very esthetic, direct composite veneers are highly acceptable.

In terms of direct restorations, do you believe that adhesive restorations (composite resin + adhesive) perform as well as amalgam ones? (Vanessa Cavalli Gobbo)

Only if proper isolation can be achieved during the entire restorative process. Amalgams are more forgiving of such a stringent need for isolation, but require more sound tooth structure to be removed to create macro-retention, instead of relying on bonding.

With the development and popular clinical use of composites, the *design* of cavity preparations has changed, and in most of cases, they are much more conservative than are the preparations for amalgam restorations.

Do you think this is the main advantage of composite resin restorations? (Marcelo Giannini)

Perhaps so. However, for persons so concerned about this aspect, conventional composite preparations can still be used, and the amalgams can be "bonded", wiht no need for mechanical retention.

Are you in favor of eliminating amalgam in dentistry? (Vanessa Cavalli Gobbo)

Absolutely not. World-wide, this restorative material is the answer to restoration of millions of teeth, where the more expensive, and highly technique sensitive bonded composites might not be available, or the talents of the operator might be the cause of composite restoration failures.

Bulk fill composites look promising. What care should be taken when using them? (Marcelo Giannini)

They certainly are no cure-all. There is still internal shrinkage, and separation from deep bonded walls, as a result of polymerization shrinkage stress. Operators MUST adhere strictly to manufacturer's directions, especially for not exceeding thickness of manufacturer's suggested increment thickness, as well as exposure times using lights having appropriate irradiance levels.

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- General Practice Residency in Dentistry from Wilmington Medical Center, USA;
- MS degree in Biomaterials from University of Michigan, USA
- Professor with tenure at the Department of Restorative Sciences, Dental College of Georgian, Augusta University;
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