

## Results

Decay	Proximal Only		Occlusal Only		Proximal and Occlusal	
Gene	Best SNP	P-Value	Best SNP	P-Value	Best SNP	P-Value
MMP9	rs3918251	0.060	rs17576*	0.010	rs17577*	0.050
MMP20	none	>0.05	none	>0.05	rs1711433	0.050

\*non-synonymous

Table 1. SNPs in MMP9 and MMP20 genes associated with dental caries in primary molars

## Methods (cont'd)

Study Subjects	
Race	Number of Subjects
African American	21
Hispanic/Latino	60
White	14
Gender	
Female	48
Male	47
Age (years)	
Mean	7.6
Range	6-11
Age of Subject	Mean # of Primary Molars
6	8.0
7	8.0
8	7.6
9	7.7
10	7.8
11	4.0

Table 2. Description of subjects



Mean # of Primary Molars with Occlusal Decay Only



Figure 2. MMP9 SNP rs17576 associated with decay of primary molars only.

## Conclusions

This study of MMP9 and MMP20 genes associated with dental caries susceptibility. It is important to different genetic factors affecting risk of occlusal tooth decay.

## References

Antunes, L. et al. Association between TIMP1 and dental caries in primary molars.

# The Creative Clinician Scientist

## Student Competition for Advancing Dental Research and its Application

A Participation Guide for U.S. Student Clinicians and Faculty Advisors



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## **American Association for Dental, Oral and Craniofacial Research / Dentsply Sirona Student Competition for Advancing Dental Research and its Application (SCADA)**

Dentsply Sirona's vision is to deliver innovative dental solutions to improve oral health worldwide. This vision cannot be achieved without a strong commitment to scientific discovery. One way we encourage innovative thinking is through our long-standing support of student research.

The first International Association of Student Clinicians - American Dental Association (ADA) or SCADA Program was launched as a joint venture between DENTSPLY International and the American Dental Association in 1959 during the centennial session of the ADA in New York City. The program was conceived by the late Dr. Harold H. Hillenbrand, former Executive Director of the ADA, and the late Mr. Henry M. Thornton, former Chairman of DENTSPLY International. Their goal was to establish a program that would stimulate student interest in dental research and introduce dental students to the American Dental Association.

SCADA's mission today remains the same -- to advance the art and science of dentistry by introducing pre-doctoral students to the world of dental research. By immersing themselves in research, students learn how to apply the scientific method to best serve clinical problems, as well as broaden their understanding of career opportunities in dentistry. In fact, many of today's dental educators were first drawn to research and academic careers through SCADA. With its 55+ year history, the program has seen dental students across the globe become leaders in the profession.

### **What is SCADA?**

SCADA – the Student Competition for Advancing Dental Research and its Application – is a global student competition, aimed at engaging the next generation of dental professionals in the discovery and advancement of dental research, and the improvement of oral health worldwide.

The competition was founded in 1959 with the aim to help students discover research, advance themselves, and find inspiring ways to improve dental care – and continues in this spirit today.

### **Program Goals**

- Engage students to **Discover** the importance and power of dental research.
- Provide opportunities for students to **Advance** their Research skills and careers.
- **Inspire** students to look for new ways to have a positive impact on dental care and oral health.

### **Program Requirements**

The scientific program of the Annual Meeting of the American Association for Dental, Oral and Craniofacial Research (AADOCR) plays an integral role in the continuing education of dental professionals. The AADOCR, with the generous sponsorship of Dentsply Sirona, proudly conducts the Student Competition for Advancing Dental Research and its Application (also known as SCADA). This competition supports one student from each CODA accredited dental school in the United States and Puerto Rico to receive an expense-paid trip to participate in the AADOCR's Annual Meeting, and the opportunity to represent his/her school in the SCADA research competition.

**Responsibility of the Dental School.** An invitation to participate in the SCADA Program is sent to each CODA accredited U.S. dental school. The school must confirm its participation by completing an electronic form and agreeing to work with the student participant and ensure compliance with the program's rules and regulations. A Dentsply Sirona representative will contact the identified Faculty Advisor to finalize details and assist the student in fulfilling the requirements of the program.

**Student Eligibility.** The participating Student Clinician:

- Must be selected through a student research or poster presentation competition at his/her school prior to the AADOCR Abstract deadline.
- Must be a pre-doctoral student at the time of the AADOCR Annual Meeting.
- Must be a current member of the AADOCR.
- Must submit an abstract to the AADOCR Annual Meeting by abstract deadline. Student abstracts will be subject to the current abstract review process conducted by the AADOCR for scientific excellence. Acceptance of submitted abstracts is not guaranteed.
  - Please ensure you review the abstract notification in December and follow appropriate steps should the abstract not be accepted. You will be notified by email.
  - Must not have presented the same abstract in a previous meeting.

**Policy on Co-Student Clinicians.** Two or more students may develop the research for the presentation but only one student from each school is eligible to present the research for judging and only one student will receive financial support from Dentsply Sirona and AADOCR.

**Method of Selecting the Student Clinician.** The AADOCR and SCADA Board of Governors does not designate a specific procedure for the selection of Student Clinicians and delegate the selection of the Student Clinician to the participating dental school. Most dental schools conduct a student research competition and select the Student Clinician through that process. State and local dental societies are available to assist and advise students and faculty in the judging of the student research presentations at a local dental school. And the SCADA Board of Governors is willing to provide assistance to the schools if requested. While each school uses its own rules or guidelines to select the Student Clinician, this representative must adhere to the regulations established by the AADOCR and the SCADA Board of Governors.

**Responsibility of the Faculty Advisor.** The faculty advisor must ensure that the student's presentation is in compliance with the regulations described in this Creative Clinician Scientists document as established jointly by the AADOCR and the SCADA Board of Governors. Faculty Advisors must ensure the following:

- Disseminates information regarding the SCADA personnel to the student body and school administrators.
- Works with the dental school for selection of the Student Clinician.
- Provides assistance to the student in selecting the appropriate category in which the student's research will be judged.

**Responsibility of the Student Clinician.** Participants in Student Clinician Research Program must:

- The Student Clinician selected by the school makes initial contact with the Clinical Affairs Office of Dentsply Sirona by email: corporate-scada@dentsplysirona.com.
- Student completes and submits the application, the abstract, and all other requested information by the due dates.
- Meet all eligibility requirements.
- Complete all forms and submit all required documentation by the identified deadlines.
- Fully participate in all program activities.
- Conduct themselves in a professional manner.
- Wear business attire to all required events.
- Attend the **Orientation Seminar** on the evening prior to the judging when the policies and procedures will be reviewed. Members of the SCADA Board of Governors, SCADA members, the AADOCR staff and officers of Dentsply Sirona will be at the Orientation Seminar to greet Student Clinicians.
- Attend a reception hosted by a Dentsply Sirona representative immediately following the Orientation Seminar.
- Attend the **Awards Program and Reception** on the evening of the AADOCR Annual Meeting in honor of all Student Clinicians participating in the program. The winners of the Student Competition for Advancing Dental Research and its Application will be announced during the AADOCR Opening Ceremonies and at this event. Each student will receive recognition as the official representative of his/her dental school.

## COMPETITION RULES

**PLEASE NOTE: Any violations of the following rules will automatically disqualify the student from the competition and the research will not be judged.**

**I. JUDGING CATEGORIES.** Research presentations are judged in two (2) categories:

### **CATEGORY I: Clinical Science / Public Health Research**

Clinical Science / Public Health Research presentations focus on clinical research questions in general dentistry or one of the clinical dental specialties and may focus on diagnostic approaches, interventions and/or prevention, and/or may evaluate clinical techniques, materials or devices directly related to oral health care. This category also includes educational research, epidemiology, public health, community-based, and/or public policy research.

### **CATEGORY II: Basic and Translational Science Research**

Basic and Translational Science Research presentations are generally hypothesis-driven projects involving some aspect of basic or translational sciences. Translational research pertains to studies that investigate the application of basic science findings to clinical situations. Research in this category may address a technique or method involving a biological or physical science.

## II. APPLICATION AND ABSTRACT

Student Clinicians must complete the on-line abstract submission via the AADOCR's Annual Meeting portal and provide a color passport type photograph (jpeg format preferred). Please refer to the AADOCR Annual Meeting Call for Abstracts which will be sent by AADOCR.

**Abstracts** should be no more than 300 words combined in length (excluding research title which includes a ten-word limit) and must include:

- Title – Should be succinct yet fully describe the nature of the project and be no more than ten (10) words. Title formation with Each First Letter Capitalized.
- Objectives of the investigation - Identify reasons for investigation and provide background information. What problem are you trying to solve?
- Experimental methods used – Describe how the study was conducted, techniques used, sample size, data analysis methods, etc.
- Essential results – Present the findings of the study and their significance. Display the data using tables, graphs, and charts that can be easily understood.
- Conclusion – What did you learn from conducting this research? What are the clinical implications of this project?

Qualified judges (at least one for each category) review each abstract prior to the competition. While it is the responsibility of the Faculty Advisor and the student to indicate the category in which the research presentation will be judged, the judges review all abstracts for accuracy in group assignment. An AADOCR representative will contact the Student Clinician for clarification about the classification of the abstract, if necessary, and SCADA reserves the right to re-classify the abstract into a more appropriate category if deemed appropriate by the judges.

## III. CLOSED POSTER / RESEARCH PRESENTATION TO JUDGES:

**The competition poster should NOT include:**

- The name of the student's university and/or the name of any other school **must not** be visible on any materials during the judging session.
  - AADOCR will provide materials to conceal mention of name and institution on poster; competitors have the option to bring a blind poster for competition, but this is not required.
- Trade names of products **may not** appear on any materials during the judging session. Be sure to use generic description in place of brands. Otherwise, the poster will be rejected and not allowed to compete.

**The competition presentation SHOULD:**

- Cover the same material as reported in the abstract. Substitution of clinicians or significant changes in the title of the research presentation from that listed in the official program is not permitted.
- Give an opening statement to acquaint the audience with the nature and purpose of the study.

- Briefly describe procedures and materials. Be sure to use generic description such as “Product A,” or “Product B” in place of brands.
- Allocate most of the presentation time to the results of the study. State the results simply and clearly so that significant facts can be readily identified.
- Conclude the presentation with a brief summary of the essential results you believe were demonstrated by the experimental data, as well as their clinical implications.

Student Clinicians will be required to present their research twice: in a closed session to a panel of judges and publicly to AADOCR Annual Meeting participants.

Students are required to wear **business attire** during the assigned presentations as well as during the awards program.

1. Closed sessions for judging the Student Clinician’s research
  - Judging hours are between 8:00 AM and 2:00 PM on the designated day.
  - Each student will be assigned a specific presentation time to present his/her research to a panel of 3-6 judges. Students should arrive at least 15 minutes prior to the scheduled presentation time. Student Clinicians who arrive late or miss their assigned presentation time may be disqualified from the competition.
  - No one other than the primary Student Clinician, the panel of judges and program staff are permitted in the presentation area during the closed judging session.
  - The presentation should be no longer than 7-10 minutes in length with an additional 5 minutes for Q&A.
  - Student Clinicians may be called back to present to the judges in the closed session; please stay close to the convention center if called.
2. AADOCR Annual Meeting Poster presentations
  - The open presentations session is approximately 1 hour 15 minutes on the designated day.
  - Co-clinicians may be present and assist in the presentation during the open session.

#### IV. HANDOUT MATERIALS

Handouts are not required, and if used, are limited to a one-page synopsis of the research presentation. **Handouts should NOT include the name of the student's school or any other school displayed.** It is the student's responsibility to arrange to have sufficient copies of handouts available for distribution to the Judges and those viewing the presentation. Fifty copies (50) should be sufficient.

#### V. ADVERTISING

No advertising material or material that resembles a commercial promotional effort may be distributed or shown during the closed judging presentation. Drugs and products mentioned in the presentation should be identified by chemical formula or by generic name. No trade names (brand or company) may be used for identification or other purposes in the poster presentation during the judging. Only generic identifiers are acceptable. For example: “Product A” is a glass-filled resin catalyzed by visible light.

Commercial promotion of a product or service by trade name is absolutely prohibited. Violation of this requirement will automatically disqualify a project from consideration in the competitive portion of the research presentation. It is permissible to use trade names (brand or company) for identification purposes only during the open presentation portion of the research presentations (non-judging portion).

## **VI. Assistance Received**

Each student must acknowledge the amount of assistance received in preparing the research presentation during the application process. The Judges recognize that the research process requires a team approach. The student should identify his/her role on the research team.

## **STUDENT CLINICIAN BENEFITS**

- I. AADOCR will fund the** student clinician's meeting registration and will be pre-registered for the AADOCR Annual Meeting and his/her registration badges can be printed by the student upon arrival at the annual meeting. The Annual Meeting badge will entitle the student to admission to all no fee-ticketed scientific sessions and the Exhibit Floor area.

**Please Note:** If the student plans to bring along a co-clinician, family member, or friend, please inform the Clinical Affairs Office of Dentsply Sirona prior to Annual Meeting for information about SCADA events and the AADOCR Annual Meeting registration process.

- II. Expenses.** The Student Clinician will receive the following from Dentsply Sirona:
- A round-trip economy class airline ticket to the Annual Meeting.
  - Hotel accommodations for four nights during the Annual Meeting
- III. Hotel Reservations.** A hotel in the convention city will be designated as headquarters for the Student Clinicians. The AADOCR will make the reservations for all Student Clinicians. Students are responsible for their incidental expenses.

## **IV. Awards**

- All awards are provided by Dentsply Sirona. The announcement of the winning students will be made during the AADOCR/Dentsply Sirona Awards Program.
- Three (3) winners will be selected from each category, totaling six (6) winners.
  - **First Place** award winners will receive \$1,000.
  - **Second Place** award winners will receive \$750.
  - **Third Place** award winners will receive \$500.
  - All participants receive a certificate of membership to SCADA for their contribution to the AADOCR's Scientific Meeting.

## **V. SCADA Reach**

Today, SCADA has grown to become globally recognized – engaging with students in more than 30 countries, with more than 8,700 participants over the years.

The competition operates at local, national, and global levels, and gives pre-doctoral



students the opportunity to discover the power of dental research, while providing a platform for them to present their findings to dental students and professionals from around the world – helping to advance themselves and dental research in the process.

Locally appointed advisors provide students with guidance and support to help them get the most out of the SCADA experience.

### **Local**

Local engagements through dental associations and schools give students the chance to submit research within two categories: Basic and Translational Science and Clinical Research and Public Health.

### **National**

National Competitions are co-hosted by leading dental professional and research organizations and provide a platform for students who are selected through their local institution to present their research at the national/regional level – and compete for a sponsored trip to the Global SCADA Awards.

### **Global**

The Global SCADA Awards bring exemplary students together to present their research at the AADOCR annual meeting, along with top-performing students from around the world, to share experience, and build a network that will support them throughout their careers.

- VI. Alumni Organization.** Participants in national and global competitions become part of the SCADA Alumni – a global community of professionals that provides career, networking and ongoing collaboration opportunities between students, dental schools, researchers and clinicians.
- VII. Governance.** SCADA is governed by an International Board of Governors. If you are interested in becoming more involved with the Board of Governors, please contact us at [corporate-SCADA@dentsplysirona.com](mailto:corporate-SCADA@dentsplysirona.com)
- VIII. Dentsply Sirona.** SCADA is sponsored by Dentsply Sirona and represents part of our ongoing commitment to dental research, and its role in empowering dental professionals to provide better, safer, faster dental care.

We believe dental research is key to driving innovation and ensuring its benefits are realized, by both patients and dental professionals alike.

**AADOCR / Dentsply Sirona**  
**Student Competition for Advancing Dental Research and its Application (SCADA)**  
**JUDGES RATING FORM**

This is a poster presentation. It is not an essay or exhibit. Students have 10 minutes for their presentation followed by 5 minutes of Q&A.

**Judging Criteria**

- 1) Originality and design of the investigation.
- 2) Quality of the data produced.
- 3) Suitability of the methods of analysis used.
- 4) Scientific value of work.
- 5) Demonstrated mastery of the subject.
- 6) Ability to explain project/data to a broad scientific audience (e.g. basic scientists, clinical researchers, epidemiologists)
- 7) Clarity of presentation.
- 8) Presenter's contribution to project as a whole.

**Brief Instructions**

- 1) Rate each abstract, verbal presentation and Q&A.
- 3) Average scores amongst the three judges.
- 4) Person with the highest average will win.

TIME	NAME	ABSTRACT 40 points max	VERBAL PRESENTATION 30 points max	Q & A 30 points max	TOTAL 100 points

## **ADDITIONAL INFORMATION**

Faculty members or students seeking additional information regarding the program and/or requirements of the AADOCR/Dentsply Sirona Student Competition for Advancing Dental Research and its Application should contact the Clinical Affairs Office of Dentsply Sirona or Beatrice Nguyen, AADOCR Awards Assistant Manager:

Dentsply Sirona Inc.  
Attn: Office of the Corresponding Secretary  
13320-B, Ballantyne Corporate Place  
Telephone: 704-587-0453  
Email: [corporate-SCADA@dentsplysirona.com](mailto:corporate-SCADA@dentsplysirona.com)

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