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Spring 2016

## LLUSD Articulator - Volume 27, Number 1

Loma Linda University School of Dentistry

Kenneth Abramovitch  
*Loma Linda University*

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# LLUSD ARTICULATOR

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# LLUSD ARTICULATOR

The melding of competence and compassion  
in dental education.

VOLUME 27, NUMBER I WINTER/SPRING 2016

**Articulator** (formerly *Dentistry*) celebrates with alumni and friends the School of Dentistry's efforts to combine compassion and competence in the education of oral healthcare professionals. LLUSD alumni represent the strength of that amalgam. The journal is published twice each year by the Loma Linda University School of Dentistry Office of Marketing.

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## Alumni director

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Douglas Hackleman, MA

### Contributing editor

Edna Maye Loveless, PhD

### Science editor

Yiming Li, PhD, DDS, MSD

### Photographers

Carmen Fernandez

Daryl Osborne

## LLUSD Mission

Loma Linda University School of Dentistry seeks to further the healing and teaching ministry of Jesus Christ by providing an environment wherein:

Students learn to provide high quality oral healthcare based on sound scientific principles

Patients receive competent care, which is preventive in purpose, comprehensive in scope, and provided with compassion and respect

Faculty, students, and staff value the patient relationship, respect diversity, and share responsibility by working together toward academic, professional, spiritual, and personal growth

Scholarly activity and research provide a foundation for evidence-based learning and enhance whole person care

The workplace environment attracts and retains a superior and diverse faculty and staff who motivate, educate, and serve

Our communities (local, global, and professional) benefit from our service, stewardship, and commitment to life-long learning.



*In dedicating its totally revitalized Price Family Radiology and Imaging Clinic, LLUSD celebrated the generosity of alumni on which it so gratefully depends (see pages 14-19).*

### Editor's note:

With the intention of making it more interesting, useful, and attractive, we continue to revise your alumni journal. This issue of *Articulator* reaches you with three firsts:

One, the journal is now sent in a protective mailing bag with the expectation that it will reach you entirely intact.

Two, a new journal segment called "Where Are They Now?" (see page 12) is intended to keep you better apprised of the interesting activities many of your fellow alumni are involved in. We hope this feature will nurture connections between LLUSD alumni and their alma mater and each of you with the other. To do this effectively, we need you to tell on yourselves (or on your peers) so that we have the opportunity to brag about you.

Three, we have enclosed a postage paid, return addressed envelope that we hope you will use for any or all of at least four reasons:

1. Please, please take a moment to fill out the survey on page 6 that gives you the opportunity to tell us what you think of the alumni journal. Circle your choices, add your comments, photocopy (or clip out) the page, and send it back to us in the envelope provided.

2. We would very much appreciate you letting us know about meaningful or unusual things you are doing professionally—or apart from your profession—that might be of interest to other alumni. We've made it easy now for you to drop us a note.

3. If you need a couple of continuing education credits, your alumni journal provides the opportunity. Just return the quiz (see page 45) in the envelope and we'll make sure your quiz is graded and your credits are applied.

4. The Office of Philanthropy is always pleased to help you with tax-deductible donations and with trusts. Just include a donation in the envelope, and we will gladly forward your generosity to that office.

Thank you in advance for any use you make of the enclosed envelope especially for the feedback we need to serve you better.

Appreciatively,

Doug Hackleman, MA  
Editor

Cover: LLUSD students (L-R) Ereni Sellas, D4; Kayla Perez Ortiz, D3; Bryan Otis, D4; Christopher Rodas, D3; Amy Giroux, D2; Lemuel Feceu, DH2 (BS); Yulia Chigir, IDP2; and Anahita Akbari Farahani, IDP2, assemble in front of the LLU Church.

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Direct advertising inquiries and correspondence to:

Publications Director  
 LLU School of Dentistry  
 11245 Anderson Street, Ste 120  
 Loma Linda, CA 92354

Phone: (909) 558-4984  
 Fax: (909) 558-0992

To reach the School of Dentistry Alumni Association, contact:

Jeri Fowler, assistant director  
 LLUSD Alumni Affairs  
 11245 Anderson Street, Ste 120  
 Loma Linda, CA 92354

Phone: (909) 558-4399  
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## DEAN'S MESSAGE

### The added value of accreditation

**F**or more than two years the School of Dentistry prepared for its 2016 (and ninth) site visit from the Commission on Dental Accreditation (CODA), the accrediting authority for schools of general dentistry, dental hygiene, and each of the recognized dental specialties. A septennial event that last occurred in 2009, the School's recent, two-and-a-half-day site visit concluded on February 9.

CODA will not provide its formal report of the results of the full accreditation evaluation for several months; it is therefore premature to discuss or speculate about the outcome. However, even in advance of the formal accreditation report, we can—and should—take great pride in our accomplishments associated with the accreditation process.

Preparation for the accreditation process requires a comprehensive self-study. This process compels us to assess our education and research missions (to take stock of where we have been), evaluate our current performance, and develop strategies to shape our future.

The site visit team commended us on the thoroughness and credibility of our accreditation self-study report. Its members were largely in agreement with our evaluation of our programs' strengths as well as those areas that need attention. The effort to evaluate ourselves candidly is important in ways that go beyond the accreditation process and may well determine our success in adapting to new educational models, health care reform, and shifting (cultural, political, professional) priorities. The LLU School of Dentistry's future success depends on adaptability—on the ability to continually and accurately assess evolving strengths and weaknesses in ways that enable us to address strategically our new reality.

The CODA team complimented LLUSD effusively on the strong support it encountered across the School for our unique mission. On more than one occasion, the committee chair took the opportunity to share examples of how faculty, students, and staff embraced the School's faith-based commitment to competent, compassionate service in their meetings with the site visit team.

The LLUSD accreditation team's ability to organize and coordinate the efforts underlying our accreditation preparation is also a strong testament to what the School of Dentistry can accomplish when we work together. Literally hundreds of faculty, staff, and students collaborated to complete our self-study and met with the CODA site visit team. The ability to execute a plan in an institution of our size and complexity



*Dr. Ronald Dailey*

is a noteworthy trait that will help us excel as we continue to evolve.

On the final morning of the site visit, the CODA team's chair reiterated points we had made upon its arrival: that LLUSD has a very special mission with unique people to carry out that mission, and that LLU School of Dentistry is a very special place. He was able to share that observation because throughout the scrutinizing team's visit our faculty, staff, and students demonstrated that uniqueness.

Thank you to everyone involved directly in preparing for the CODA evaluation. My thanks, also, to all of you who are engaged in the missions of our school—through your work, your intellectual creativity, your friendship, and your advocacy. You are what makes the Loma Linda University School of Dentistry a great place. We are indeed blessed!

Best regards,

Ronald J. Dailey, PhD  
Dean, School of Dentistry

# *LLU School of Dentistry identity statements*

## **MOTTO**

*Service Is Our Calling*

## **VISION**

*LLUSD is a pre-eminent health care organization seeking to represent God in all we do. We are enthusiastically committed to excellent, innovative, comprehensive education of students and whole person care of our patients.*

*Our students, staff and faculty are empowered through an enabling environment that honors the dignity, diversity, and worth of everyone.*

*Our graduates are exemplary professionals and progressive clinicians of integrity. Our Lord's example inspires us to enrich our local and global communities through service. This is our calling.*

## **CORE VALUES**

*Belief in God*

*Respect for the Individual*

*Principled Spirituality*

*Student Focused*

*Empathetic Care*

*Commitment to Service*

*Pursuit of Truth*

*Progressive Excellence*

*Analytic Thinking*

*Effective Communication*

## **MISSION**

*LLUSD seeks to further the healing and teaching ministry of Jesus Christ wherein:*

*Students learn to provide high quality oral health care, based on sound biologic principles.*

*Patients receive competent care, which is preventive in purpose and comprehensive in scope, provided with compassion and respect.*

*Faculty, students and staff value the patient relationship, respect diversity and share responsibility by working together toward academic, professional, spiritual, and personal growth.*

*Scholarly activity and research provide a foundation for evidence-based learning and enhance whole person care.*

*The workplace environment attracts and retains a superior and diverse faculty and staff who motivate, educate, and serve.*

*Our communities—local, global, and professional—benefit from our service, stewardship and commitment to lifelong learning.*



## Give us your feedback regarding LLUSD *Articulator*

**Please** circle the answers in the following survey that match your opinions of the LLUSD alumni journal and make use of the enclosed return-addressed, postage-paid envelope.

We would also be pleased to have you use the same envelope to return your answers to the x-ray history quiz on page 45 for continuing education credit.

Another use of the envelope would be to let the *Articulator* editors know about alumni who are doing unique, significant things that you believe other alumni might like to know about (see "Where are they now?" (p. 12).

Last but not least, the envelope is an easy way to send a donation to your alma mater by check. We hope that the enclosed return-addressed, postag-paid envelope will encourage communication from our readers.

### LLUSD *Articulator* survey

1. What do you do with the LLUSD alumni journal?
  - a. Lose it with the junk mail
  - b. Glance through it
  - c. Peruse it for items of interest
  - d. Read a lot of it
  - e. Digest it cover to cover
2. How do you perceive its content?
  - a. Boring but worth a glance
  - b. Worth reading
  - c. Stimulating
  - d. Fascinating
3. How do you judge its appearance?
  - a. Uninspired
  - b. Respectable
  - c. Attractive
  - d. First rate
4. I take advantage of the scientific article quiz for continuing education credit.
  - a. Yes
  - b. No
  - c. Sometimes.
  - d. I rely on it for CE requirements.
5. The journal is—
  - a. too long.
  - b. too short.
  - c. just right.
6. The journal should—
  - a. continue as a print publication.
  - b. continue as an online publication.
  - c. continue in both modes.
  - d. disappear.
7. The journal ends up—
  - a. in my waiting room.
  - b. on my Postum table.
  - c. on my nightstand.
  - d. passed along.
  - e. in the trash.
8. Content balance—
  - a. Want more about alumni.
  - b. Want more about LLUSD.
  - c. Like to see more about \_\_\_\_\_  
\_\_\_\_\_
  - d. Like to see less about \_\_\_\_\_  
\_\_\_\_\_
9. If I were *Articulator's* managing editor, I would make the following changes, additions, deletions:
 

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## BY THE NUMBERS

### *Figures associated with LLUSD and its interests*

- 100** LLUSD students took international Service Learning trips in 2015.
- 15** LLUSD faculty members served on international Service Learning trips in 2015.
- 8** countries were served by LLUSD students and faculty on 2015 Service Learning trips.
- 2,233** patients were treated by LLUSD students and faculty during 2014 Service Learning trips.
- 600-1000** patients are treated each week day in LLUSD clinics.
- 81** is the number of countries LLUSD International Dentist Program students have originated from.
- 59** is the number of years that LLUSD has been graduating dental professionals.
- 40** percent of LLUSD faculty members are females.
- 41** percent of LLUSD applicants are female.
- 8,157** LLUSD *Articulators* are mailed each issue.
- 2** is the number of dollars left by the Tooth Fairy under childrens pillows in 2015.

## *Alumni staying apprised*

The School of Dentistry is taking advantage of advances in electronic media and the growth of internet based social networking to increase the options that alumni and friends have to remain connected with the School and with each other. We hope you will explore the following links, some of them on a regular basis.

Biannual editions of the School's alumni journal—under its new name, *LLUSD Articulator*, and former title, *LLU Dentistry*—are available online at:

[dentistry.llu.edu/about/events-publications](http://dentistry.llu.edu/about/events-publications)  
[tinyurl.com/zpdq5xs](http://tinyurl.com/zpdq5xs)

More frequent updates regarding life at the School may be viewed at its online news page:

[llu.edu/dentistry/news.page](http://llu.edu/dentistry/news.page)  
[tinyurl.com/hug2rda](http://tinyurl.com/hug2rda)

Less formal and more succinct notices about life at LLUSD and the chance to respond in the same venue are available at the School's Facebook page:

[facebook.com/LomaLindaUniversitySchoolofDentistry](https://facebook.com/LomaLindaUniversitySchoolofDentistry)  
[tinyurl.com/jg2vfvb](http://tinyurl.com/jg2vfvb)

A rich selection of photographs from LLUSD events are available online at:

[llusd.shutterfly.com/pictures](http://llusd.shutterfly.com/pictures)  
[tinyurl.com/j5ym2gs](http://tinyurl.com/j5ym2gs)

LLUSD's video library is available online at:

[youtube.com/user/Dentistryllu](http://youtube.com/user/Dentistryllu)  
[tinyurl.com/gvewfo](http://tinyurl.com/gvewfo)

## Melvin Lund: LLUSD pioneer

**"I came in year two,"** says LLUSD teaching alumnus Melvin "Pug" Lund, DMD, MS. He is speaking about the opening of Loma Linda University School of Dentistry. The School was still in the planning stages when Ross Stromberg, DDS, MS, appointed to be the School's assistant dean, visited the Lunds. They had recently settled in a home overlooking the Columbia River; a view of Mt. Hood framed their living room window. Dr. Stromberg asked Dr. Lund to consider a faculty appointment in Loma Linda.

It would mean pursuing graduate studies in operative dentistry at the University of Michigan and returning to the west at a school existing only on paper. The Lunds took the leap as the first class (43 freshmen, all males) enrolled at the School of Dentistry in 1953. Four faculty members—Dean M. Webster Prince, DDS; Ross Stromberg, DDS; Lloyd Baum, DMD, MS; and Ralph Steinman, DDS, MS—were present. Two others—Melvin Lund and Harold Schnepfer, DDS—were pursuing graduate degrees. In 2015 at his home in Zionsville, Indiana, Dr. Lund comments, "I am the sole survivor of the original faculty of six."

He retains vivid memories of his years at LLUSD. When he arrived with his advanced education completed (1954), he found Dean Prince on the end of a paintbrush in a house he had found for the Lunds to live in. Incorporation for the little town of Loma Linda was two decades away. "The dean lost his watch in that paint can," Dr. Lund recalls, even as the Lunds had joined what became "family" at the School.

Dr. Lund found the School had 12-13 clinic chairs in the basement of the School of Medicine's pathology building across the street from the late Gentry Gym on Stewart Street. The dental laboratory was installed in the sanitarium building on the hill that currently houses the LLU School of Public Health and Allied Health Professions. Medical school professors were teaching the basic science classes. "We had no traditions. We were charting our own course. We were a family operation," Dr. Lund says.

He cites high regard for Dr. Prince, whose objective was to prepare students to pass boards in any state of the country at a time when great disparity existed in the performance of dental graduates.

"Dr. Prince doesn't get the credit he deserves. He knew where he was going because he had been there. It made him a no-nonsense guy," Dr. Lund says. He recalls the time he, Harold Schnepfer, and Lloyd Baum arrived five minutes late

for a faculty meeting. "Dr. Prince had watched us walking in no particular hurry from the sanitarium building on the hill to his administrative office. We were scolded for being five minutes late. Only in my days of logging had I gotten so dressed down," says Dr. Lund. "Then it was over, done."



Dr. Melvin Lund

In another setting, he was a huge success at a Burden Hall Saturday Night Live event with the students when he took the lead in a song poking fun at dental education. Dr. Prince's role: a blundering critter.

Dr. Prince was also meeting challenges from church sponsors. Presenting Dr. Stromberg's meticulously drawn plans for a dental school building to the Board, Dr. Prince met opposition head on when a financial crisis prompted the suggestion that the School be housed in Quonset huts. "Put up Quonset huts and we're out of here!" Dr. Prince declared. Dr. Lund and his associates were in agreement. The proposed building went up, below estimated costs.

Dr. Lund speaks with awe as he names colleagues from the 50s: Lloyd Baum, a classmate from the University of Oregon, possessed "a fertile mind," he says. "His space concepts were great. He was great

at making snap judgments—you have to do this when patients are being treated." One of Dr. Baum's famous sayings arose from an oft-repeated story about Casey Stengel, who deplored the Mets' dismal first year by saying, "Can't anybody here play this game?" The Baum version went like this: "Can't anybody here fix teeth?" When you get right down to it, Dr. Lund comments, the patient wants to know, *Can anyone fix my teeth?*

Drs. Lund and Baum cooperated in research to improve dental practice, at one time innovating a refractory mold material that made possible accurate casting of gold crowns without the removal of a wax pattern from a die.

The friendship with Dr. Baum extended to membership in the Lions Club and an enthusiastic pursuit of skiing. During the ski season, a tacit understanding, never formally negotiated, existed at the School: Drs. Lund and Baum would not be present on Thursday afternoons if the ski slopes were open.

Joining the Redlands Lions Club, the two met colleagues who simply asked, "What goes on at Loma Linda? We know you roll up the sidewalks on Friday afternoons." Lund and Baum arranged to have the Lions Club members be their guests at lunch in Loma Linda. They became acquainted with store managers, policemen, and the mayor of Redlands. Dr. Lund became chaplain of his Lions Club and now has chalked up 63 years of membership in the club.

Naming another early colleague, Neils Jorgensen, DDS, who joined the faculty in 1954, Dr. Lund calls him “a soft-speaking Dane,” adding, “He provided underpinnings for dental education, showing students how to treat patients. A specialist in IV sedation, he knew how to reassure people,” says Dr. Lund. “It wasn’t ‘You sit there and I’ll do my thing.’ He taught students to make patients comfortable so that they could receive treatment with dignity.”

Interaction with students provided considerable satisfaction for Dr. Lund. Interspersed with intense procedures came moments of irrepressible merriment. Thus in the clinic, Dr. Lund watched as a student (Duane Wacker, DDS’64, later a LLUSD faculty member) arrived wearing an aluminum hard hat inscribed “Baum shelter.” This occurred when Dean Smith was enforcing a strict dress code for dental students in the clinic.

His rich memory can produce several dozen more stories including one about the time a student submitted his test paper and then staged a phony seizure in the classroom.

Dr. Lund recalls a successful dental team trip to China at a time when travel in that country was very difficult. Later one of the valued team members, John DeVincenzo, became a neighbor of the Lunds in the close knit Loma Linda community. One day the Lunds’ standard poodle wandered into the neighbor’s yard, gained access to the kitchen, picked up a roast on the table, emerged, and buried it. Reparations were in order. The Lunds replaced the roast.

Becoming acquainted with Pastor Charles Teel at the Loma Linda church services held in Burden Hall, Dr. Lund found himself solicited to help supervise the earliteen “juniors.” They were meeting in a ramshackle building. “Bring the juniors to our campus,” said Pastor Teel. Dr. Lund arranged for use of the biochemistry amphitheater for the juniors’ Sabbath School services and recruited people who were lively and could identify with the youth as they met for worship and went on camping trips.

An early feature of LLUSD’s dental education included mission trips that Dr. Lund describes: “With Don Peters, DDS’61, MS’69, as mission trip director, about ten of us went into the hinterlands of Guatemala. We saw to it that we were doing things professionally well, even though we did mostly extractions. We went from the Caribbean to the Pacific, often working far into the night. There were challenges in diet; dysentery was a problem for us.” During their varied encounters, the dental team met and sympathized with a young Catholic priest from Spain. He was very lonely at his remote position in the country, struggling with a congregation that sought to mix its spiritualism with his message of Christianity.

After two decades at LLUSD, in 1973 the Lunds themselves headed for a distant location: Indiana University. “Our last

Sabbath in Loma Linda,” Dr. Lund reports, “Pastor Bill Loveless said to me in the lobby of the church, ‘It’s so nice of you to be going to the mission field.’” The Lunds were indeed going to a new environment—big city, Indianapolis; highly diverse population; yet familiar academic concerns.

Dr. Lund would become a founding member of the Academy of Operative Dentistry, established to promote excellence in operative dentistry, an organization that now has over 1,200 members from 25 countries. He serves as chair of the academy’s constitution and bylaws. In Indiana he would teach full time until he was 75, then part-time until he reached his 90<sup>th</sup> birthday. He comments on his retirement: “You call it. You don’t wait for someone else to call it.”

The day after his 93<sup>rd</sup> birthday in 2015, Dr. Lund was on the greens shooting 38 for nine holes. His wife Marg reveals that although the oldest member of his golf tournaments, Dr. Lund is the most frequent winner of the booty.

*Dr. Lund’s rich memory can produce several dozen more stories including one about the time a student submitted his test paper and then staged a phony seizure in the classroom.*

“We do crossword puzzles.” Marg, 88, says. “First thing in the morning we do a four-step dance for balance.” Marg sings “From the Halls of Montezuma” for the box step performance. On their recent (November 10, 2015) 69<sup>th</sup> wedding

anniversary, Marg spoke about the couple’s meeting. She admits that on that blind date—skiing at Mt. Hood—she was considering the pros and cons of another suitor. But the recently minted dentist’s sense of humor and energy attracted her. A month later, when he said, “Would you think I was dumb if I asked you to marry me?” the 19-year-old Marg found herself engaged.

The daughter of a dentist (Harold Reith, DDS), Marg was familiar with the world of dentistry. And the dentist she married had impressive qualifications. He had acted upon a chance remark of his Auburn Academy principal, Professor Arthur Olson, who had asked, “What do you want to be?”

“My father has suggested the ministry, but I’m not sure about that.”

“The church needs dentists,” said Professor Olson. Dr. Lund didn’t forget those words. He had completed two years of college at Walla Walla College when drafted into the army. At the Army’s medical replacement center he was honored as the top enlisted person. As a finale to basic training, he packed for a 10-day bivouac with his army mates. Standing in line, he was told to fall out and report to company headquarters. There the commanding officer announced, “You’re going to dentistry. The train leaves in two hours.” Dr. Lund was on his way to a notable career.

He concluded his teaching career as chair of operative dentistry at the Indiana University School of Dentistry and retired there as its professor emeritus of dental materials.

## DEVELOPMENT

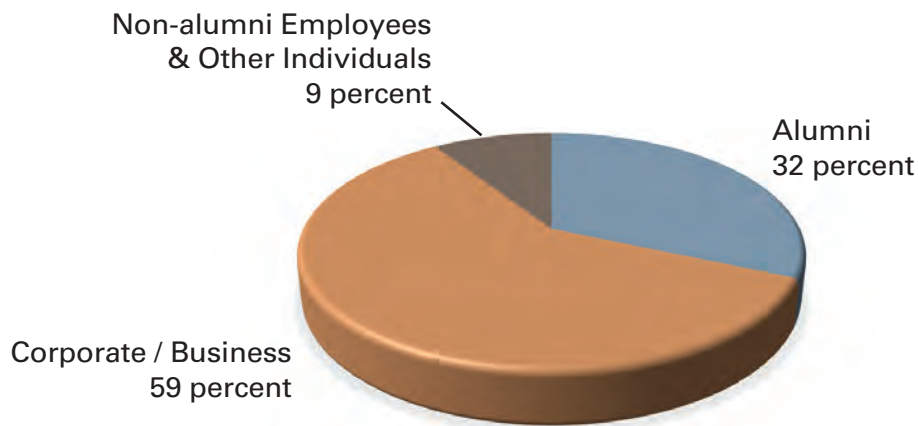
# LLUSD Development highlights 2015

### TOTAL GIVING TO THE SCHOOL OF DENTISTRY

Philanthropic support for the School of Dentistry during the 2015 calendar year totaled \$2,984,088 contributed by 733 donors who supported a variety of programs, projects, and funds (see graph below). 2015 totals are compared with the two previous years in the following table:

Year	Goal	Actual	# of Donors
2015	\$2,000,000	\$2,984,088	733
2014	\$2,000,000	\$ 907,568	640
2013	\$2,000,000	\$1,755,196	739

### 2015 GIFTS BY SOURCE:



- Endowments – With Mahmoud Torabinejad, DDS, MSD, PhD, at the helm, the Advanced Education Program in Endodontics is close to funding its endowment for the Ronald E. Buell professorship in endodontics. The endowment also received a \$100,000 matching gift.
- Planned Gifts – The Offices of Development and Planned Giving together received a newly written planned gift from Dr. Clyde Roggenkamp estimated at \$540,000.
- Gift of Stock – The Philip Boyne Family donated to the School of Dentistry a large gift of stock.
- Alumni Receptions - Dean Ronald Dailey, PhD, met with alumni groups at the annual American Dental Association meeting, annual National Association of Seventh-day Adventists Dentists meeting in Washington, DC, and at the California Dental Association meetings in Anaheim and San Francisco.
- Non-cash Gifts – Bien-Air USA Inc. contributed approximately \$1,300,000 in equipment and labor as it installed more than 200 hand drills throughout the School of Dentistry clinics.
- Capital Projects – The Price Family Radiology and Imaging Clinic, thoroughly renovated and upgraded oral imaging services, was opened in November 2015 based on a generous gift from Ginger Price, DDS'83, and her father Hal Price, MD'52, and mother Virginia (see pages 14-19).
- Dean's Circle – Membership in the Dean's Circle has been extended to any donor making a gift of \$1,500 or more toward any School of Dentistry fund. Qualifying donors met at the Annual Dean's Circle Dinner during the California Dental Association's annual meeting in May 2015.

## LLUSD funding priorities

**Continual advances** in knowledge and technology, and the adjustments required to remain competitive in a demanding field of professional education, require almost constant upgrades to facilities, equipment, and the systems that run them. Priorities for LLUSD fund allocations and capital projects include:

### Funding Priorities

#### Student Support:

**Goal \$ 10,500,000**

High student indebtedness limits practice considerations and options for dental specialty education. In order to attract and retain the best students, it is necessary to provide supplemental financial support in the form of scholarships and lower interest subsidized loans that will ease the financial impact of the cost of dental education.

#### Faculty Support:

**Goal \$ 1,640,000**

Funds are needed to subsidize and amortize educational indebtedness to ensure recruitment and retention of talented young dental educators who are motivated to serve as LLUSD faculty.

### Current and Future Capital Projects

#### Center for Dental Research

**Completed**

Expand and modernize the Center for Dental Research in a new facility adjacent to Prince Hall.

#### Radiology Clinic (\$500-K in hand)

**Completed**

Expand the number of operatories, replace dated equipment, and rehabilitate the radiology facilities.

#### Main Predoctoral Clinic Rehabilitation

**Cost: \$ 2,600,000**

Modernize clinic cubicles with new dental chairs—including side chairs for operator and assistant, computer mounts, computers and plumbing. At \$20,000 per cubicle, replacements represent a naming gift opportunity.

#### Clinic Laboratory Renovation

**Cost: \$ 1,000,000**

Upgrade LLUSD's central laboratory to provide computer assisted manufacturing of dental restorations coupled with traditional dental restoration production. Gifts will fund necessary equipment upgrades and renovation of space for lab technicians and new technology.

#### OMFS Clinic (requires significant expansion)

**Cost: No estimate**

Expand the clinic space by adding more surgical suites and additional areas for student education.

#### Lloyd Baum International Dentist Program Laboratory

**Under development**

Renovate the IDP Laboratory and renovate its educational and laboratory equipment.

**To support any of these projects, please contact the LLUSD philanthropy team at 909-558-4754, email: [sdgiving@llu.edu](mailto:sdgiving@llu.edu) or go to: [tinyurl.com/jycabbj](http://tinyurl.com/jycabbj)**

## Dean's Circle gathers for brunch

Late Sunday morning, June 5, a group of approximately 70 LLUSD Dean's Circle faithful assembled in Wong Kerlee's banquet space to enjoy good food, fellowship, and an insider's view of the future of their alma mater and its parent University from Dean Ron Dailey, PhD; President Richard Hart, MD, DrPH; and LLUH CEO, Kerry Heinrich, JD. The Dean's Circle members were also privileged to receive heartfelt thanks from three LLUSD students who expressed their gratefulness to the School's ritual donors for the impact and meaningfulness of their generosity. Meanwhile, the School's Philanthropy team has set a near term goal of doubling the Dean's Circle membership, because the ripples of its influence cannot be overestimated.



*Gabriela Hernandez, D4, came personally to thank Dean's Circle members.*



## WHERE ARE THEY NOW?

Brief updates on the noteworthy professional and personal activities of LLUSD alumni

### Steven Filler, DDS'81, MS, MA



**Dr. Steven Filler**

Dr. Steven Filler, professor, Department of Restorative Sciences, is associate dean of Student, Alumni & External Affairs, at the University of Alabama, Birmingham, School of Dentistry.

Dr. Filler is active in dental treatment of patients requiring special care. For a number of years he has been involved in the treatment of dental patients with tooth erosion and mucosal inflammation, including patients with eating disorders.

With his MS in oral biology, Dr. Filler is a popular lecturer on Medical Emergencies in the Dental Office.

Since 1983, Dr. Filler has treated caged patients at the Birmingham Zoo that have included turtles, rattlesnakes, ducks, elephants, river otters, leopards, tigers, chimps, orangutans, and gorillas. He initiated a successful campaign to stop the public feeding of zoo animals. Once the animals diets were regulated (no more M&Ms), their health problems plummeted.

Dr. Filler continues to serve his alma mater indirectly as a member of the Loma Linda University Health Board of Trustees.

Dr. Filler previously served as director of the Division of Hospital Dentistry at University of Alabama Hospitals and is a past president of the American Association of Hospital Dentists.

### Sharika Kim, BS'03 (DH)

Ms. Sharika Kim is the owner of Pétala Flower Farm in Washougal, Washington, in the beautiful area around the Columbia River Gorge.

After practicing dental hygiene for several years, Ms. Kim became a mom "to two precious boys and our family decided I would stay home with them."

Ms. Kim "had always wanted to raise our children simply, grow our own food, raise animals, and collect eggs from our own hens. Flowers were just a natural transition."

In the past 3.5 years Ms. Kim has transformed 2.5 acres into a sustainable, specialty cut flower and vegetable farm.

"I have been fortunate to learn from some of the leaders in the flower farming and floral design industry," she says, "and now get to spend my days outside with my boys, planting, growing, and harvesting vegetables and flowers." She sells her flowers at local farmers markets as well as offering full service wedding and event design. "As the busy growing season winds down, I will go back to dental hygiene part time."

Many of Ms. Kim's photos—a banquet for the eyes—can be viewed at: [www.instagram.com/petalaflowerfarm/](http://www.instagram.com/petalaflowerfarm/)

For information, contact her at: [hello@petalafloowers.com](mailto:hello@petalafloowers.com)



**Ms. Sharika Kim**

### Jeffrey Fisher, DDS'99

Dr. Jeffrey Fisher, completed a dental anesthesia residency at LLUSD in 2001 and currently provides office-based general anesthesia for pediatric dentists throughout the greater Sacramento area.

In 2010, Dr. Fisher, along with John Hansen, DDS, launched EZPEDO Inc. to introduce their revolutionary, prefabricated, esthetic Zirconia crowns for children—a durable, biocompatible alternative to stainless steel crowns—to the dental profession.

Realizing the need to train dentists to use the new crowns successfully in their own practices, Drs. Fisher and Hansen founded EZPEDO University that since 2013 has sponsored workshops in major metropolitan areas from New York to Sydney, San Francisco to Dallas, Miami to Seattle, Las Vegas to Chicago, training more than 500 dentists.

For more about this enterprising alumnus and his contribution to the field of pediatric dentistry, go to: [www.ezpedo.com](http://www.ezpedo.com)

See also the recent research article on Zirconia crowns by Jung-Wei Chen, DDS, MS, PhD, director, Advanced Education Program in Pediatric Dentistry, in the most recent *Articulator* at: [tinyurl.com/gmzhtch](http://tinyurl.com/gmzhtch)



**Dr. Jeffrey Fisher**

### David Ronto, DDS'00

Dr. David Ronto is second place Winner of the 2016 Edison Award for most prestigious innovation in dentistry—his Multi Axis Spiral Suction tip for high-volume evacuation that does not attach to the tongue, cheek, or soft tissue.

An independently practicing dentist in St. Joseph, Michigan, Dr. Ronto was frustrated with the traditional suction tips that suck saliva out of a patient's mouth because they "are noisy and stick to everything" and cost him eight to ten minutes per hour-long appointment.

In 2010 he began tinkering with alternative approaches for suction tips that evolved into the design he has been manufacturing in his own plant and selling since November of 2013.

Dr. Ronto's novel, disposable suction device solves many problems associated with traditional dental suction tips by eliminating the need for all variations of HVE tips currently on the market, including the need for a separate saliva ejector tip and backflow prevention valves.

Dr. Ronto opened GHOST Manufacturing in Baroda, Michigan, three years ago, and sales have doubled or tripled each subsequent month. The manufacturer produced half a million units in April 2016.

Learn more at: [www.masssuction.com/](http://www.masssuction.com/)



**Dr. David Ronto**

Photo by Matt Furman, furmanfoto.com

## TRANSITIONS

### *Introducing Juliana Powell*

The Loma Linda University School of Dentistry is pleased to welcome Juliana Powell to its Office of Development as its second development officer.

Ms. Powell joins Tim Sherwin, MS, senior development officer, and Kimberly LaBelle, development coordinator, to complete the LLUSD Office of Development team.

Ms. Powell is enthusiastic about the opportunity to secure major gifts from alumni, grateful patients, and friends that will augment the School of Dentistry's part in the LLUH mission to "make man whole." Beginning April 4, 2016, she reports to Dean Ronald Dailey, PhD, and Jillian Payne, executive director, LLUCH Foundation.

A native of Michigan, Ms. Powell, is the fifth of seven siblings raised by a stay-at-home mother and a neighborhood grocery store-owning father. She ran cross-country in high school, "because I was too short for basketball." She loved running and became a track and cross-country coach at her kids' private school, where she also served as room mother, school board member, and often transported her youngsters' classmates to school and on field trips.

She has extensive experience in assisting and managing a dental practice and in coaching runners. But her profound experience in philanthropy and development are the result of the recent loss of the Powell's son, Alex, on Mother's Day, 2011, during his freshman year at Michigan State University, to a rare and aggressive form of cancer.

As a multi-sport athletic star and National Honor Society member in high school, Alex managed during his first year at Michigan State to achieve his dream of becoming a Spartan. Determined to have more than just memories of his brief life, Ms. Powell used her many gifts, and a mother's love, to create the Alex Powell Spartan Experience Leadership Endowment that features an annual event to attract philanthropic contributions to its mandate to raise funds for Michigan State's Resource Center for Persons with Disabilities. The first Alex's Great State Race took place Sunday, October 26, 2014, and featured Wolverine

and Spartan ROTC cadets running the game ball 64 miles from the University of Michigan Stadium in Ann Arbor to Michigan State University's Spartan Stadium in East Lansing for the two schools' annual football rivalry.



*Ms. Juliana Powell*

Juliana Powell's direct, hands-on experience—initiating, planning, coordinating, fundraising for, and utilizing all forms of local and national media—created and promoted an annual event that simultaneously honors Alex and enhances immeasurably the quality of experience for students with disabilities at Michigan State University and the University of Michigan.

"The Race has opened doors," says Ms. Powell who insists that she "grieves with gratitude. Alex is the reason I'm here at Loma Linda University," she adds. The experience of his loss and how she made something so positive from it has made her aware of how much one person can do.

"On behalf of the School of Dentistry, I am delighted to have Juliana Powell join the philanthropy team and contribute her contagious enthusiasm for the School, its faculty, students, and alumni," says Dean Dailey. "Juliana is a most welcome addition to the School's community, and she shares the commitment of potential contributors to our mission of graduating the highest quality, service oriented oral healthcare professionals."


Ms. Powell is married to Steven Powell, DDS'87, assistant professor in the School of Dentistry's new Division of General Dentistry.

The couple has a daughter, Adrienne, who is completing prerequisites for dental school at La Sierra University.

Ms. Powell continues to chair a fundraising and philanthropy committee for two fully endowed entities: Michigan State University's Resource Center for Persons with Disabilities and the University of Michigan's Services for Students with Disabilities.



## ADVANCES



PRICE FAMILY  
RADIOLOGY  
AND  
IMAGING CLINIC

## Price Family Radiology Clinic dedicated

The Price Family Radiology and Imaging Clinic—a comprehensive rebuild of the LLU School of Dentistry's imaging clinic—is the consequence of a cross-school, intergenerational, intra-family collaboration between Loma Linda University father and daughter alumni—Hal Price, MD'52, and Ginger Price, DDS'83.

Dr. Ginger Price joined her parents in a total contribution of \$621,000 toward the renovation of the LLUSD imaging services.

The well attended formal dedication of the Price Family Radiology and Imaging Clinic took place in Prince Hall's newly remodeled main entrance waiting room on February 24, and represented the first event of the 56th LLUSD Alumni Student Convention.

Dr. Ginger Price, who maintains a cosmetic dentistry practice

in Phoenix, Arizona, was on hand to accept the appreciation of Loma Linda University and School of Dentistry administrators, faculty, and students on her own behalf and that of her father who died unexpectedly on October 28, 2015, just five months after receiving (with his wife, Virginia) Loma Linda University's Distinguished Humanitarian Award at its 2015 School of Medicine conferring of degrees.

*A cross-school,  
intergenerational, intra-  
family collaboration facilitated  
the comprehensive rebuild of  
LLUSD's imaging clinic.*

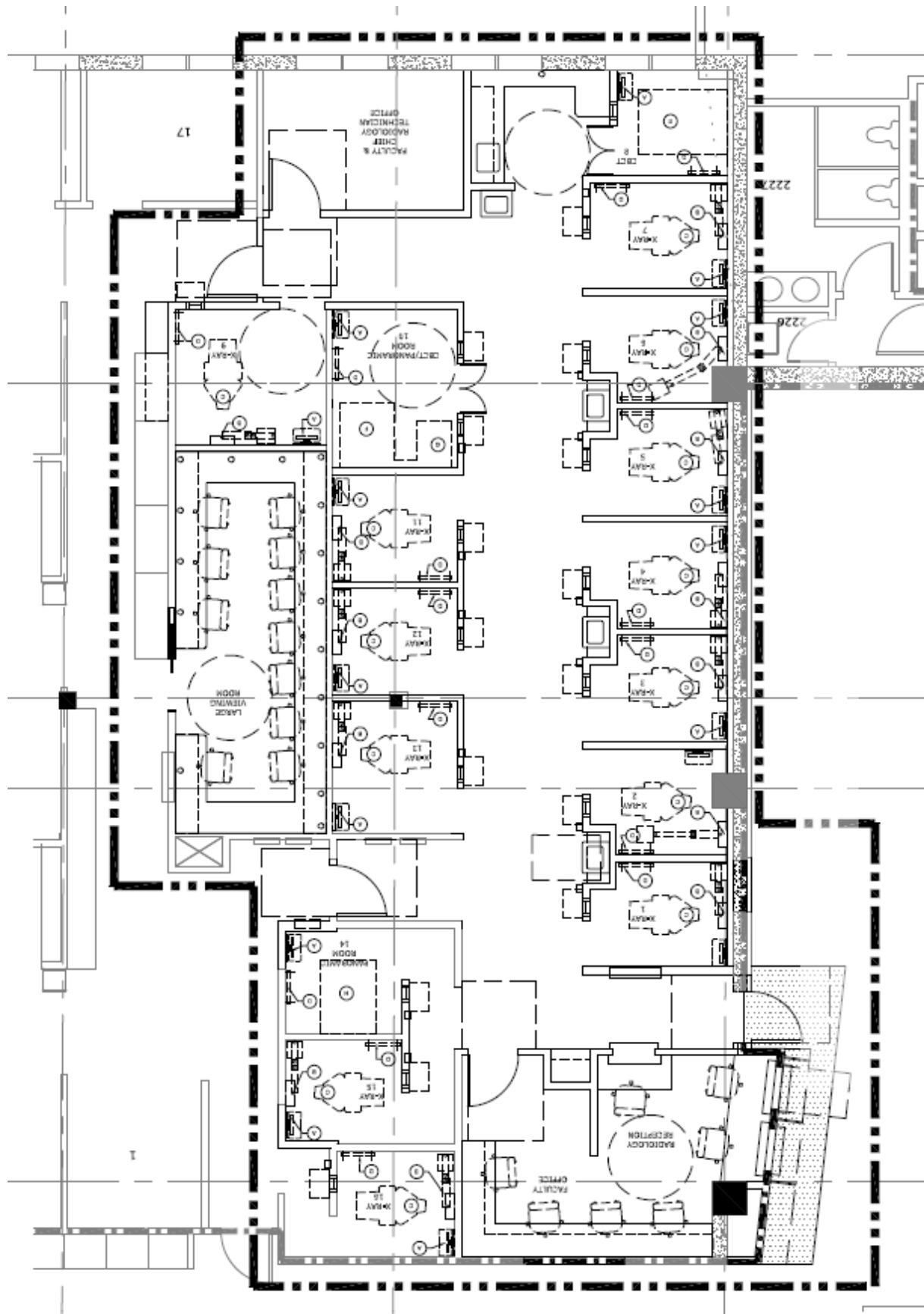
Ronald Dailey, PhD, dean, welcomed the attendees and expressed his appreciation for the Price family generosity as representative of "alumni who continue to make the School's future not just possible but better."

Richard Hart, MD, DrPH, president, LLUH, expressed the sentiments of Loma Linda University's administration for the kind of alumni Loma Linda University schools produce, referring in this case particularly to



From top clockwise: Dr. Abramovitch enjoys the revitalized clinic. Dean Dailey and Heidi Kohltfarber, DDS'03, MS, assistant professor, Radiology and Imaging Sciences, begin the tour. Dr. Ginger Price is surrounded by the Department of Radiology and Imaging Sciences faculty and staff (L-R) Elaine Ruiz, RDAEF, supervisor; Dwight Rice, DDS'96, associate professor; Amy McIntyre, CDA, RDA, radiology clinician; Dr. Abramovitch; Dr. Price; Renee Flores, CDA, OSA, radiology clinician; and Dr. Kohltfarber. Dean Dailey and Tim Sherwin, senior development officer, Office of Development, look on as dentistry senior class president James Fedusenko gives remarks of appreciation. Dr. Price is bracketted by School of Dentistry classmates/friends (1983): Ronald Forde, DDS, assistant professor; Heidi Christensen, DDS, MS, associate professor; Bette Robin, DDS, and Bryan Marshall, DDS.





*The reconstructed clinic has one exterior (west) wall (top of page) with windows that face west, across the University quadrangle. Its north interior wall and entryways meet the south side of Prince Hall's main patient waiting room.*

those from the School of Medicine and School of Dentistry “who do not forget the blessings their education at Loma Linda made possible to them and to those for whom they administer their professional care.”

The revitalization of the School’s imaging capabilities that the Price family gift made feasible was not an indulgence. Among the 119,377 patient visits for the School of Dentistry’s pre-doctoral clinics over the recent year (2015), 16,455 procedures were required at its overburdened Radiology Clinic.

Kenneth Abramovitch, DDS, MS, chair, Department of Radiologic and Imaging Sciences, was “gratified to have the well-prepared space and latest technology to provide students and patients optimal imaging and diagnostic services.”

He expressed “profound thanks and appreciation to the LLU alumni in general and to the Price Family and Dr. Ginger Price in particular for their most admirable, honorable, and dignified effort to assist Loma Linda University and its School of Dentistry in its mission to prepare competent, compassionate healthcare providers for the current and coming needs of the patients that they will serve.”

Dr. Abramovitch went on to describe some of the advantages to Prince Hall’s radiology and imaging services represented by the Price Family Radiology and Imaging Clinic renovations that include



*The view eastward in the all new Price Family Radiology and Imaging Clinic.*



*Dr. Ginger Price in conversation with President Hart (center) and Roger Hadley, MD, dean, LLU School of Medicine.*



*Dr. Roger Hadley, Dr. Richard Hart, and Dr. Hal and Mrs. Virginia Price listen as Ronald Carter, PhD, provost, reads some of the reasons the Price’s were chosen to receive the University Distinguished Humanitarian Award at its 2015 School of Medicine conferring of degrees.*



*Hal and Virginia Price in the 1950s.*



*Hal and Virginia enjoying retirement.*

- expanded access to windows and the natural lighting that brightens the clinic and the morale of all who work there,
- widened corridors with easier access to the clinical spaces,
- two additional intraoral rooms (from 11 to 13), a nearly 20 percent increase in intraoral imaging capacity, and two additional sinks that make possible a gain of four radiology technicians and one additional staff member,
- an additional extra-oral/conebeam computed tomography (CBCT) unit (from two to three) that means a 50 percent increase in extraoral imaging capacity, and
- from 21 to 35 digital workstations—a 67 percent increase in digital viewing capacity.

“You make a living by what you get. You make a life by what you give,” senior dental student James Fedusenko, president, dentistry class of 2016, quoted Winston’s Churchill, in thanking the Price family as “a perfect

example of people who understand this concept. From a student’s perspective we are so grateful for your generous gift. The radiology clinic renovations simultaneously improve the care we

are able to provide our patients and enhance the patients’ experience. The stunning Price Family Radiology and Imaging Clinic leaves a lasting impression on our patients.”

The upgrade of the radiology clinical suite centralizes the majority of the School’s radiology services, and elevates its oral radiology and imaging services to the most current, 21st century technology standards. At a cost of more than \$1 million, all of this improvement was made possible by the pooling of student-generated income (tuition) with alumni gifts, the lion’s share provided by the Price family.

Dr. Ginger Price’s father-to-be, Halford (Hal) Reid Price, MD, returned from serving as a World War II



*Hal and Virginia Price during LLU commencement weekend, 2015, and their honor in receiving the Loma Linda University Distinguehd Humanitarian Award.*

*Captain Hal Price with the Sabreliner 60 he owned and flew. Virginia Price and grandson await the buckle-your-seatbelt order.*



medic to attend Pacific Union College as a religion major. There, as a Clearfield, Pennsylvania, native, he met and married Virginia Baker of Plainfield, Virginia.

Hal graduated from the College of Medical Evangelists (now LLU School of Medicine) in 1956. Following an internship in Lansing, Michigan, the Prices settled in Arizona, where Hal became Scottsdale's third physician.

For more than forty-five years, he made house calls, covered the emergency room, and delivered babies—the consummate old-fashioned family doctor. Virginia was the business manager and ran the practice, in addition to taking care of their home and their two daughters, Carol and Ginger.

Early in his medical career, Hal felt the call to serve his church in some capacity. He envisioned Ellen White's books printed in paperback for wide distributed at a nominal cost. When the White Estate and the General Conference rejected the idea, he began his own publishing company in 1960, the SDA Missionary Foundation. For more than forty years he printed the Conflict of the Ages series, distributing 40 million books in five languages. Again it was Virginia who coordinated the book printing with the New York print houses, printed and mailed newsletters, shipped books, and answered hundreds of letters from around the world.

When the SDA Missionary Foundation became inactive, the Prices felt the Deferred Missions Appointment (DMA) Program at Loma Linda University was a natural fit to further the vision and goals their foundation had promoted.

In recognition of their commitment and dedication to this University, and in appreciation for their generous financial support that contributes to fulfillment of our institutional mission, "To make man whole," Loma Linda University named Halford and Virginia Price recipients of the University Distinguished Humanitarian Award at its 2015 School of Medicine conferring of degrees.

As Chair Abramovitch noted, "We would be remiss not to mention that the team effort involved in determining the design of the new clinic facility included experienced advice from radiology staff, faculty, and clinic administration, as well as the professionalism of the indefatigable LLU construction and architectural services."

## ALUMNI STUDENT CONVENTION #56

### 2016 Student Dedication Service

Apart from each year's commencement exercises, the annual Student Dedication Service held at the LLU Church during the School of Dentistry's Alumni Student Convention, is the School's most meaningful event.

Held this year late Friday afternoon of February 26, 2016, the Student Dedication Service is the occasion during which LLUSD's first-year doctor of dental surgery and dental hygiene students receive a Bible embossed with their names and graduating students are given personally monogrammed white coats.

The procession of faculty was led by LLU Provost Ronald Carter, PhD, carrying the University Mace and welcoming the School of Dentistry family and friends with the reminder that the two symbols on the mace—a Bible and rays of light—represent the dedication of students to service and to learning.

Dean Ronald Dailey, PhD, offered an introductory prayer; and musical praise, "His Love All Over the World," was rendered by an instrumental ensemble of dental students.

Chris Oberg, DMin, senior pastor, La Sierra University Church, spoke to the gathering in an address entitled, "The Dental Professional Near You."

Pastor Oberg developed her message from the minor prophet Amos' fourth chapter, which she said contains the greatest concentration of bad news in the Bible, including from verse six: "And I have given you cleanness of teeth in all your cities," which meant nobody had food to eat.

Along the way, Pastor Oberg's listeners learned that her father, LLUSD alumnus LeRoy Nelson, DDS'61, practiced dentistry in the Camas-Washougal, Washington, communities for almost 40 years during which he treated many Russian immigrants who could hardly afford to pay, and that her sister is LLUSD Department of Pediatric Dentistry chair, Bonnie Nelson, DDS'88.

But Pastor Oberg's primary message was her interpretation of Amos: "You are so blessed you have forgotten your obligations . . . and," consequently, "Yaweh sends droughts, insects, and 'cleanness of teeth.'"

"You have your four bathrooms, your \$40,000 cars and your hundreds of thousands in tuition, so that you can be your own boss, so you can leave room for dessert. Meanwhile, two-thirds of the world goes hungry," Pastor Oberg applied the prophet's message.

"We need to read Amos alongside Daniel and Revelation," she insisted. "Our job is to imagine heaven on earth."

Pastor Oberg concluded, "Let justice and mercy flow; and, along the way, take care of some teeth."

Shelley Hayton, BS'82 (DH), MAT, assistant professor, Department of Dental Hygiene, followed the presentation of Bibles and white coats with a prayer of dedication after which all students and dental professionals were led in reciting the Dental Pledge by Gary Kerstetter, DDS'82, director, Service Learning.

A vocal ensemble of 34 LLUSD students performed Crystal Lewis' musical praise entitled, "I Will Go"; and Scott Smith, DDS'09, director, Spiritual Life & Diversity, pronounced the benediction.



#### Photo captions:

- A. Caitlin Hanson, DH'16
- B. Jeffrey Martins, DDS'16
- C. Anabaita Akbari Farahani, IDP'16
- D. Mariela Garcia Armenta, DH'16
- E. Signe Anderson, DH'17
- F. Steven Haddad, DDS'19
- G. Andrew Correces, DDS'16
- H. Pastor Chris Oberg channels the prophet Amos.
- I. Rosemina Rameau, IDP'16





## ALUMNI STUDENT CONVENTION #56

### *Alumni and students consider the past, the present, and future collaborations*

In his State-of-the-School address on Thursday morning at the Centennial Complex' Damazo Amphitheater, Dean Ronald Dailey, PhD, said the accomplishing of most anything worthwhile requires shared goals and a collaborative effort.

While he traced the School's relatively short march from humble beginnings in the 1950s, Dr. Dailey was more specific about the goals and the kind of collaboration that will be required to continue to thrive as a school of dentistry that faces the substantial change in dental education that begins in 2020 and will mean for dental students a single, end-of-program board exam.

Dean Dailey described a new curriculum that will have to be implemented before 2020—one that will prepare graduating dental students for the new, single board exam. That new curriculum, he emphasized, will require classes from the very beginning to comprise an amalgam of rigorous science and clinical practice, of technical and interpersonal training, with patients attended to by closely mentored students beginning early in their first year.

The results of this curriculum restructure will prepare LLUSD dental students to integrate biomedical, behavioral, and clinical sciences to achieve demonstrable competency in the practice of their chosen profession.

The end of the hour overtook Dean Dailey, but he did present his "Roadmap to LLUSD's Future" in six goals:

**Goal 1.** Strengthen recruitment, teaching, and mentoring to prepare predoctoral students for lifelong learning and leadership.

**Goal 2.** Enhance research with special emphasis on areas of present and emerging strengths in order to push the boundaries of knowledge that benefit society.

**Goal 3.** Recruit, value, develop, and retain an excellent and diverse faculty and staff.

**Goal 4.** Responsibly manage fiscal and physical resources and energize supporters to expand the resource base.

**Goal 5.** Integrate spiritual values into academic and clinical curricula.

**Goal 6.** Reinstigate and sustain a robust faculty development program.

Some sense of the joys of Alumni Student convention #56 can be gotten from the following selection of photos:



*In his state-of-the-school address, Dean Dailey alerted alumni to challenges facing dental educators at their alma mater in the form of a new, solitary, end-of-program board exam beginning in 2020.*



*The Thursday evening Practice Opportunity Sessions are fast becoming a useful Alumni Student Convention tradition.*



*On Thursday and Friday, 47 scientific sessions were available to alumni in the Centennial Complex facilities.*



*Standing with his research poster, graduating senior James Fedusenko is surprised by a question from Doug Hackleman, MA, director of publications, about the difference between Type I and Type II error, as his mentor, Udo Oyoyo, MPH, looks on with amusement.*



*Classmates and friends connect at the Centennial Complex's third floor stairwell.*



*Dean Dailey enjoyed reconnecting with alumni to reminisce and to discuss trends in dentistry and the future of the School.*



*Recent alumni/brothers Justin and Landon Libby, DDS'11, appear ready to take on (or serve) the world.*



*The Centennial Center's fourth-floor gathering place was kind of like Starbucks without the coffee, except the patrons mostly were talking to each other instead of texting.*



*At a scientific session, John Won, DDS'05, head, Division of General Dentistry, discusses the integration of digital technology in the management of complex restorative cases.*



*Venerable teaching alumnus, Lane Thomsen, DDS'65, MS'74, has advice for the School's senior development officer, Tim Sherwin, MA.*



*Quint Nicola, DDS'69 (left), and John Kershner, DDS'70, join with Doyle Nick, DDS'78 (center), at the NASDAD booth.*



*Robert Perry (D4) staffs the Foundation for Worldwide Health booth.*



The fifty-year class of 1966, guests of the School of Dentistry for the 2016 Alumni Student Convention, enjoyed greetings and reports by Richard Hart, MD, LLUH president, and Ronald Dailey, PhD, LLUSD dean, at a Wong Kerlee luncheon. On guided tours of the campus they explored the Centennial Center's new anatomy laboratory. Called a "great reunion," their Saturday afternoon lunch attracted 21 of the 34 living members of the class that originally numbered 39. The members of the class voted to establish a \$50,000 endowment fund to aid dental students.



Forty-year class of 1976 (L-R) back row: Russ Jones, Gary Golden, Ken Trefz, Bob Leach, Myron Gottfried, Lyle Kelstrom, Steven Baker; middle row: Art Garbutt, Roger Hall, Alfred Pragasam, Pek-Song Chu, Chester Clark, Kwang Chung, Phil Truitt; front row: Virginia Yeb-Ballman, Lin Adams

Meeting at Delbi Palace in San Bernardino, 17 members of the class of '76 presented segments of a slide show. For a total participation of 30 people, the class members provided a pictorial record of their days together as students and of subsequent events in their careers and families. Part of the evening's conversation centered on news collected from absent class members.



Left: Dean Dailey with his wife, Karen Winston, MD, and (right) visiting with Charles McKelvey, DDS, and Gary Moore, DDS.

The notably celebrative thirty-year class of 1986 convened Friday to Sunday of the alumni convention at Hard Rock Hotel in Palm Springs. Fifty-five of the 95 graduates, many present with spouses, welcomed former faculty sponsors, Duane Wacker, DDS, '64, and Ronald Dailey, PhD, to a Sunday night banquet, where 102 persons participated. Continuing its annual tradition, the class issued Golden Probe Awards for such distinctions as Best at Brown Nosing, and Producing the Most Grandchildren. The weekend's more rigorous activities included mountain biking, hiking, and golfing. Reviewing classmates' contributions to dentistry, the cohesive group noted these:

Dennis Zingler, DDS, president, class of 1986, noted a few of his classmates activities in organized dentistry and volunteer services: Ken Wallis, DDS, present CDA president; James Wood, DDS, California State assemblyman and forensic dentist who served disaster victims at the fallen World Trade Center and in New Orleans following Hurricane Katrina; Gary Ackerman, DDS, chairman of the CDA board of managers, past president of Sacramento Dental Society, ADA House of Delegates; Mark Romanelli, DDS, vice chairman, CDA board of managers, past president of Central Coast Dental Society; Janice Moreno-Scott, DDS, past president, San Joaquin Dental Society, ADA House of Delegates, member of the CDA foundation board; John Liu, DDS, past president, American Pediatric Society; and Dennis Zingler, volunteer at CDA Presents and CDA Cares.

As Dr. Zingler notes, "While we are proudly friends and classmates, we are a profoundly tight group that have remained loyal to each other and our profession for thirty years."



Fifty-five years ago, the 52 members of LLUSD's class of 1961 received their dental degrees during a graduation ceremony at Redlands Bowl. Nine of the 28 surviving class members and their spouses convened to renew and reminisce during LLUSD's 2016 Alumni Student Convention at the Loma Linda home of classmate Robert Darby. It was a time of sharing news of absent classmates and the current circumstance of each other. Two members of the class—Drs. Gene Wilson and Leon Grabow—are still practicing dentistry part time at Monument Valley and Sonora, California, respectively. Dr. Darby, volunteer LLUSD faculty, does weekly supervision of D-4 students at a welfare clinic in Redlands; he is also active in selecting used dental equipment at NASDAD's warehouse for shipping to overseas clinics. Pictured (L-R) at the Darby home are Drs. Dick Smith, Carl Hendrickson, Gene Wilson, Leon Grabow, Robert Darby, Nels Rasmussen, Carlton Lofgren, Warren Waggeber, and Arthur Spentz.



# 2017 LLU/AAID



## Implant MaxiCourse®

For more than 30 years, the Advanced Education Program in Implant Dentistry through the Continuing Dental Education Division has provided part-time didactic and clinical training in implant dentistry to general practitioners and specialists.

The 2017 LLU/AAID MaxiCourse® offers 300 hours of lectures, hands-on workshop sessions, live surgical demonstrations, online lectures and clinical experiences placing dental implants on participants' patients. The LLU/AAID MaxiCourse® brings the experience of renowned instructors and clinicians from Loma Linda University and around the world.

The 10-month sessions (two days per month) also help prepare the participant to take the written portion of the AAID Associate Fellow Membership Examination. The didactic portion of the course includes information for beginners, intermediate and advanced clinicians in implant dentistry wishing to expand their knowledge in this field.

The program is designed to take the participants through a systematic learning approach of implant dentistry.

Starting with basic concepts, diagnosis, treatment planning, dental implant surgery and implant prosthodontics, the attendees have the opportunity to develop sequential treatment plans on their own patients and participate in performing surgeries with the assistance of experienced faculty and residents of the Advanced Education Program in Implant Dentistry.

The attendees also experience hands-on workshops where procedures such as cone-beam imaging analysis, simulated patient-based dental implant surgery on life-like mannequins and guided-bone regeneration procedures on cadavers and pig jaws complete the understanding of basic and advanced dental surgical procedures.

**Dates:** March 9 - December 8, 2017

**Tuition:** \$15,000

### REGISTRATION INFORMATION

To register for LLU/AAID MaxiCourse contact Loma Linda University School of Dentistry Continuing Dental Education office at (909) 651-5673 or visit us online at [dentistry.llu.edu](http://dentistry.llu.edu)

Nearly 450 participants have completed the LLU School of Dentistry and AAID MaxiCourse program.

## LLUSD celebrates 40 years of implant dentistry

Loma Linda University School of Dentistry's Advanced Education Program in Implant Dentistry celebrated 40 years of service April 3 and 4, 2016, with a two-day symposium at the Damazo Amphitheater of LLU's Centennial Complex entitled "Anterior Implant Esthetics: Preservation vs Regeneration."

More than 500 oral healthcare professionals attended presentations by leading experts in the field of anterior implant esthetics that included lectures on current treatments and philosophies in soft and hard tissue preservation and regeneration, as well as prosthodontics management of occlusion and its complications.

Attendees received 16 hours of continuing education credit for their attention to presentations by eleven implant dentistry specialists (see box).

The Robert A. James Society for Implant Dentistry hosted a fundraising dinner Sunday evening at the Mission Inn. And after introductory remarks by LLUSD Dean Ronald Dailey, PhD, Jaime Lozada, DMD, director, Advanced Education Program in Implant Dentistry, shared his vision for the remodel of the School's Center for Implant Dentistry that will make the facility consistent with the



*Giovanni Zuccelli, DDS, PhD, professor associato confermato, Università di Bologna, Italy, lectures at the Damazo Amphitheater on the "Esthetic treatment of soft tissue defects around teeth and implants."*

quality of education and patient care that it already provides.

The "Anterior Implant Esthetics: Preservation vs Regeneration" symposium was an enormous success as evidenced by the comments attending professionals left on their evaluation sheets: "Very informative. I will change my practice." "The whole

event was top-notch." "Amazing. Thank you very much for these two wonderful days." "Very impressive group of speakers. It's like walking with the gods."

During the banquet, Joe Kan, DDS'90, MS'96, former student of LLUSD's implant program (1993), member of its faculty since 1995, and director of the "40 Years of Implant Dentistry" symposium, was feted with a surprise award for his efforts in putting the symposium together. John Kois, DMD, MSD, described the trajectory of Dr. Kan's career that included an affectionately humorous presentation of photos from his early childhood and education at Loma Linda University.

The occasion also provided an opportunity to honor the contribution made to the School's implant dentistry program by its laboratory technicians: Lui Calvillo, CDT (22 years), Satoshi Sakamoto, RDT (6 years), Mick Ilich, CDT (22 years), and Dennis Corydon, CDT (9 years).



*Istvan Urban, DMD, MD, PhD, assistant professor of implant dentistry, LLUSD, presents his Damazo Amphitheater audience with "New perspectives on vertical and horizontal guided bone regeneration."*

**Implant Dentistry 40<sup>th</sup> Anniversary Symposium—  
Anterior Implant Esthetics: Preservation vs Regeneration  
Presenters:**

*40 Years of Implant Dentistry at Loma Linda University*

**Jaime L. Lozada, DMD**

Director, Advanced Education Program in Implant Dentistry  
Loma Linda University School of Dentistry

*Prosthodontic Innovations in Soft Tissue Preservation Around Immediate Single Tooth Implants in the Esthetic Zone*

**Stephen Chu, DMD, MSD, CDT**

Clinical Associate Professor  
Ashman Dept. of Periodontology and Implant Dentistry  
New York University College of Dentistry

*Esthetic Benefits of Horizontal and Vertical Ridge and Soft Tissue Augmentation in the Anterior Zone*

**Sascha Jovanovic, DDS, MS**

Academic Chairman  
glDE Institute and Dental Center

*Immediate Anterior Tooth Replacement: 19 Years of Myth or Reality*

**Joseph Kan, DDS, MS**

Professor, Advanced Education Program in Implant Dentistry  
Loma Linda University School of Dentistry

*Myth of Anterior Guidance*

**John Kois, DMD, MSD**

Director and Founder  
Kois Center

*Interdisciplinary Strategies for the Esthetic Implant Reconstruction of High Risk Cases*

**Ernesto Lee, DMD**

Clinical Professor of Periodontics and Director,  
Postdoctoral Periodontal Prosthesis Program  
University of Pennsylvania School of Dental Medicine

*Connective Tissue Augmentation in Implant Therapy*

**Kirk L. Pasquinelli, DDS**

Assistant Clinical Professor  
Division of Graduate Prosthodontics  
University of California, San Francisco School of Dentistry

*Maxillary Arch Reconstruction: Single Tooth to Full Arch*

**Michael A. Pikos, DDS**

Founder and CEO  
Pikos Implant Center

*New Perspective on Vertical and Horizontal GBR*

**Istvan Urban, DMD, MD, PhD**

Assistant Professor of Implant Dentistry  
Loma Linda University School of Dentistry  
Private practice, Budapest, Hungary

*Esthetic Treatment of Soft Tissue Defects Around Teeth and Implants*

**Giovanni Zucchelli, DDS, PhD**

Professor Associato Confermato  
Universita' di Bologna, Italy

*Tunneling Flap Procedures in Plastic Periodontal and Implant Surgery*

**Otto Zuhr, DMD**

Assistant Professor of Periodontology  
Centre of Dentistry  
University of Frankfurt, Germany

*Standing together are symposium presenters (L-R): Drs. Jaime Lozada, Giovanni Zucchelli, Otto Zuhr, Kirk Pasquinelli, Stephen Chu, and Joseph Kan. Another symposium speaker (below), Mike Picos, DDS, founder and CEO, Picos Implant Center, autographs a "40 Years of Implant Dentsitry" poster.*







*Jaime Lozada, DMD, director, Advanced Education Program in Implant Dentistry, addresses the Robert A. James Society for Implant Dentistry fundraising dinner at the Mission Inn.*



*Cynthia Briceno is bracketed by Antoanela Garbacea, DDS, MSD'12, assistant professor, Advanced Education Program in Implant Dentistry, LLUSD, vice president, Robert A. James Society, and Dr. Aladdin AlArdah, president, RAJ Society.*



*Implant dentistry lab technicians standing together are (L-R) Luis Calvillo, Dennis Corydon, and Satosbi Sakamoto (not shown is Mick Ilich).*



*Joseph Kan, DDS, MS, professor, Advanced Education Program in Implant Dentistry, LLUSD, responds to the standing ovation he received for his contribution to the education and practice of implant dentistry.*

Also recognized for her service to LLUSD's implant dentistry program was senior administrative secretary Cynthia Briceno.

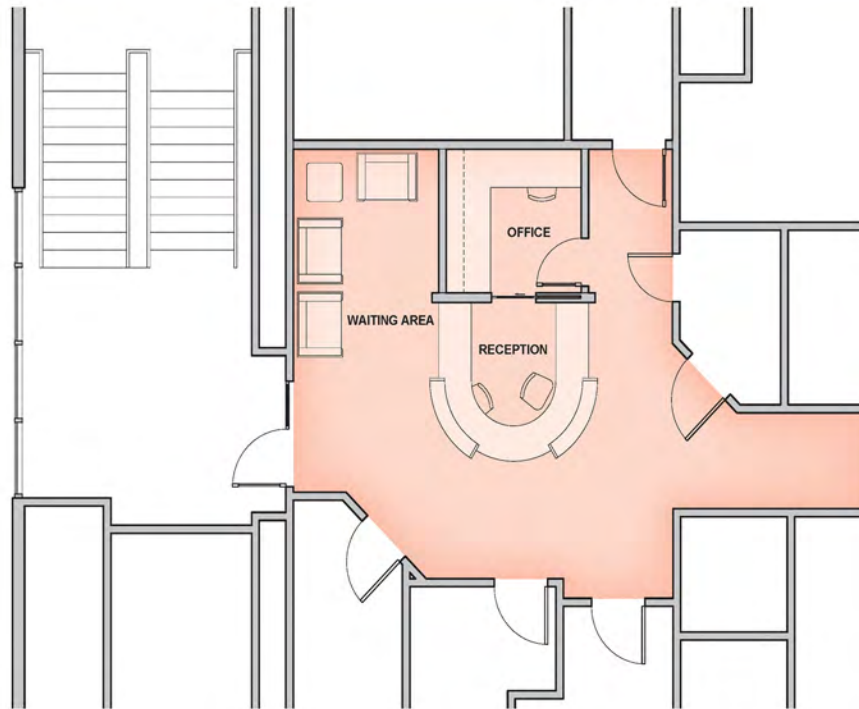
The 40th Anniversary's third day of celebration (Tuesday, April 5) was devoted to the Robert A. James Society of Implant Dentistry's 3rd Alumni Symposium in Loma Linda University's Wong Kerlee Pavilion. The day's activities were organized by the society's president, Aladdin AlArdah, DDS, assistant professor, Advanced Education Program in Implant Dentistry, and featured lectures by thirteen LLUSD implant program alumni from all over the world—countries that included Canada, France, Greece, Italy, Japan, Korea, Lebanon, Spain, Taiwan, Thailand, Lebanon, and USA. The presenters (see box) shared with their colleagues the results of their professional activities and insights.

"What sets our program apart from so many others," says Dr. AlArdah, who hosted a gathering of 90 implant celebrants

for dinner at his home on Monday evening, "is the sense of belonging to a bigger family with bonds of shared memories, friendship, and professional specialty."

A week after the event, Dr. Lozada said, "As of today I am still receiving emails of congratulations from those who attended the symposium and personal congratulations from many of our faculty in the School of Dentistry who attended the meetings, all of which reflects the outstanding work that Dr. Kan as a program chairman, with the assistance of LLUSD's Continuing Dental Education staff, accomplished for this event.

"We are looking forward to the continuing collaboration with our former students and welcome their support that enriches the Robert A. James Society and future implant symposia."



**Center for Implant Dentistry  
projected floor plan**

ADRIAN • GAUS ARCHITECTS

## Robert A. James Society of Implant Dentistry 3rd Alumni Symposium\*

*Present and Future Challenges in Oral Implantology.*  
**Silvio Emanuelli, DDS, MS, and Simone Vaccari, DDS**

*Achieving Predictable Esthetic Result: An Approach from  
Provisional to Final Restorations*  
**Petch Oonpat, DDS, MSD**

*Computer-aided Engineering of Complete Dentures & Implant  
Prostheses*  
**Antoanela Garbacea, DDS, MSD**

*Guided Bone Regeneration with Pre-Formed Titanium Mesh*  
**Joey Ting-Yueh Chen, DDS**

*Implant Diameter Selection in the Esthetic Zone: a Paradigm  
shift*  
**Juan Mesquida, DDS**

*When the Right Goes Wrong*  
**Manuel Romo, DDS**

*Treatment Planning for Traumatized Teeth: Options before  
Implants*  
**Taisuke Tsukiboshi, DDS, PhD**

*Short Implants: Evolution or Revolution?*  
**Olivier Henry-Savajol, DDS**

*Site Development for Implants and the Adjacent Teeth: a  
Periodontal Perspective*  
**Yoon Jeong Kim, DDS, MS**

*Applications of CAD/CAM-milled Polymethyl Methacrylate  
(PMMA) Interim Prosthesis in Implant Dentistry*  
**Periklis Proussaefs, DDS, MS**

*What I Learned in Loma Linda. What I Work in Taiwan – Part II*  
**Kuo-Yang Liao, DDS, MS**

*A New Perspective in Digital Technology for Anterior Implant  
Esthetics: an Update*  
**Hasan Dbouk, DDS, MS**

*Maintaining Vertical Dimension During Full Arch Immediate  
load Prosthesis Conversion Using Conventional Lab Guides*  
**Nicholas Caplanis, DMD, MS**

\* All presenters are LLU School of Dentistry Advanced Education Program in Implant Dentistry alumni.

# Profiles in Service Learning

**T**wenty-four hours in the air (plus three layovers on three continents), lost luggage, delayed flights, missed connections, drenching humidity, foreign language complications, and long lines of waiting dental patients—are all part of the adventure pursued by LLUSD students as they embarked on summer service learning trips in 2015. A few of their experiences are representative:

## Zimbabwe

There was uncertainty in the group that headed to Zimbabwe—cost of the trip, departure time, and destination fluctuated and ultimately jelled into the arrival of six D-4s and one attending faculty in Bulawayo. The intended patients were principally nurses and church employees brought to the site from all parts of Zimbabwe for dental care and for lectures and answers to questions about oral health for the hundreds of people they serve who lack access to oral healthcare.

Switching gears daily from clinical to classroom mode, the D-4s discovered fulfillment in the new challenge of teaching. As Susan Cha (DDS class of '16) observed, "It occurred to me that while we as dental students are constantly wanting to gain more clinical experiences, we forget that part of our job description is to teach our patients in taking care of their teeth." Her classmate, Ga Yeun, adds, "The lectures were a great addition to our trip, becoming the main reason why we came all the way to Zimbabwe. The nurses were knowledgeable beyond what we expected, and we often went into deeper discussion not just about cavities but about nasal teeth in infants, oral pathology, oral hygiene, and hyper-salivation. Because of the enthusiasm from the audience, we continued to think of ways to make the lectures more effective by using the typodonts, dental instruments, syringes, and even our own mouths!"

On the weekend the dental team fanned out to three of the 70 Adventist churches in the city of Bulawayo, and conducted afternoon oral hygiene seminars for members of the community. Invited to preach, Peter Chung, DDS'76, private practitioner from old Tustin, California, spoke about how God has led in his life. The students in his audience called it a special moment for "getting to know faculty not just on a personal level but also on a spiritual level."

Wesley Arnold, (DDS class of '16) considered the final trip through several police roadblocks across Zimbabwe, including

the breathtaking sight of Victoria Falls, a return to the Africa he knew from National Geographic programs. Of his mission experience, he comments, "All my experiences impacted me in a positive way, but learning about Zimbabwe's revolution, poverty, discrimination, economy, politics, and much more really pushed me to think and feel deeply."

Summing up the trip, Dahye Sung (DDS class of '16) says, "I would definitely go again to Zimbabwe . . . and see the beautiful country and people again. If I can go again, I would like to treat the local people who cannot afford dental treatments. . . . I envision that mission trips to Zimbabwe would continue every year and expand to meet the need of the people."

## Roatan, Honduras

When Jacquelyn Lee (DH class of '16) heard that mission trips were a distinguishing feature of LLU, she had no idea what missions the students at LLU were doing. "Would they go to other schools and preach?" she wondered. At orientation she learned that LLUSD students could apply their dental skills on these trips. "And I liked that notion," she says.

Jacquelyn and her colleagues landed in Roatan, Honduras, providing a dental team to augment three other teams: medical, construction, and Vacation Bible School personnel. The group directors, eight-year veterans of the Honduras mission trip, provided a smooth transition to what Fernando Mercado-Garcia (IDP class of 2016) called "workhorse days," June 22-25. Three dental students, three hygiene students, two pediatric dentistry residents, and five dentists comprised the team. Seongro Yoon (DDS class of '16) will not soon forget that, outnumbered by the

*Marianne Demirdji described "an antsy child, a blanket of humidity, and about 10 flies interested in the root canal procedure I was doing."*



At Colegio Bautista, in Nicaragua near Managua, the school's outdoor auditorium stage served as a clinic.



*Dr. Mercado and Natalie Sayegh examine a patient as Nicaraguan student observes.*

supervising dentists, the students gained valuable experience, awed by the faculty mentors who at times set aside protocol to become personal assistants by holding the suctions.

Jacquelyn Lee (DH class of '16) recalls putting together makeshift dental chairs with PVC pipes on a balcony of the cottage where the students were housed. The dental hygiene corner contained cots for the patients, instruments, sterilization, and the hygienists' own cavitron units. The team welcomed cooling breezes on their sun-drenched, ocean-view balcony and adjusted to two days of rain, resorting to tarps and enough able people to shield them. With only two hygiene chairs, the three hygiene students worked out a rotational system; two worked while the other cleaned up and set up. Seeing so many people awaiting their services, the three saw their efficiency improve as they gained experience and were able to serve 144 patients in four working days.

Seongro Yoon (DDS class of '16) noted that during the past year at school, he usually saw four patients a week; in Honduras he was able to treat five or six patients per day and perform a great variety of dental procedures. He concluded: "The dental mission trip not only helped improve my dental clinical skills, but also gave me the chance to grow spiritually." He became aware of the lack of dental clinics available on the island—deploring the fact that soda is much cheaper for the residents than is clean bottled water. He was troubled when he examined a 13-year-old girl whose mandibular first molars were so decayed that he had to extract them. "If I would abbreviate this mission trip lesson into one word," he says, "then it would be self-less. God clearly showed me that life is not about me, but about others and about Him."

Fernando Mercado-Garcia says, "This trip was significant to me in the sense that it opened up my perspective of how much we can help by gathering a group of people that care and are willing."



*Natalie Sayegh restorations on the mouth of a Nicaraguan woman pre-treatment, mid-treatment, and post-treatment*

## Grenada

Dentists rarely achieve celebrity status. But on the little island of Grenada (30 miles from end to end with a population of 110,000 people) an LLUSD team on a mission grew in popularity during its 10-day visit. People came from all over the island; a news camera team arrived to record the clinic in action.

"It seemed that everyone on the whole island was in need of dental treatment, and we were swamped every day with anxious people waiting to be seen," said Marie Smith (DDS class of '16).

"We made a difference. We made friends," reported Douglas Nyakundi (DDS class of '16). Patients recalled fearful dental treatments from the past—extractions without benefit of anesthetics. A patient had avoided seeing a dentist for two years even though she had two painful, fractured teeth. Asked how she ate her food, she explained that she chewed with her front teeth. Doug's extractions relieved her pain. Seen days later, she was extremely grateful. Patients leaving the clinic after treatment would stop to reassure the people waiting in line, describing their own painless procedures.

Finding her patients in great need of dental care, Jasmin Ayala (DH class of '16) learned that many of them hadn't seen a dentist in more than 10 years; for others, this was their first visit ever. When one patient could not stop expressing how thankful she was, Jasmin says she was convinced that her career choice was never her own, but had always been a part of God's plan. "God has given me these gifts so that I can help people," she concluded.



*Natalie Sayegh holds a satisfied patient.*

“Every day of work was such a whirlwind,” commented Dana Yoon (DDS class of ‘17). “Our seemingly chaotic set-up was actually very effective and harmonious with a constant flow of patients, and a good rotation of students and doctors, all teaching and learning from one another.” Dana admits being apprehensive about participating in the mission: “I walked into clinic on Monday frightened and intimidated because I had never done a procedure on an actual patient before; by Thursday I felt so much more at ease and confident in my abilities.” By the end of the work week, the team had seen over 500 patients.

Morris Ghermezi (DDS class of ‘16) described his most unusual case: “A middle-aged woman came to the clinic with a giant cyst growing on her lower jaw. The cyst was so large that she was chewing on it; it showed when she smiled and was causing her severe discomfort. With the help of Alan Woodson, DDS’87, assistant professor, I got to remove that cyst and bring her gums back to a healthy form. It made a world of difference—not only to her but to me as well; I have never felt such fulfillment and accomplishment in my life.” That weekend, Marie Smith (DDS class of ‘16) reported, “We saw the woman and her two young sons at church. She seemed so happy and grateful for what was done to her, and her two sons were so joyous. . . . All they wanted to do was hug all of us and kiss our cheeks.”



*Marianne Demirdji sits with new friends.*

### **Nicaragua**

The 2015 summer mission to Nicaragua was extensive. More than 20 students, and more than a dozen dentists were involved, including four Nicaraguan dentists affiliated with the country’s dental school. It is at this site that students have an opportunity to meet and work with local dental students. Some LLUSD students also spent time at the dental facilities in the university hospital, welcoming the professional expertise shared there. Of their interaction, Kyle Leis (DDS class of 2018) said he valued learning new ways of treating patients when both the professionals and patients are short on resources.

LLUSD’s commitment to Nicaragua began 20 years ago, with Hank Mercado, DDS’77, Tom Rogers, DDS’83, and Mark Carpenter, DDS’80, establishing an ongoing annual mission trip to Managua, a city of 2 million people—and no street names. Team members worked at three sites. At Mission of Hope in Managua, they treated patients who had spent hours traveling to the outdoor clinic serving 11 communities. In Escupulas, a small town just outside of Managua, students participated in a study designed by Brian Novy, DDS’06, to determine whether the application of a sealant could halt the progress of caries in children. In the hills at Colegio Bautista, a 30-minute-drive from Managua, the students selected the top of a stage in the school’s outdoor auditorium to establish four restorative chairs. Two more of the restorative chairs were situated below the stage, and one to three chairs designated for extractions were positioned below the stage as well.

Marianne Demirdji (DDS class of ‘16), reflecting on the setting, described “an antsy child, a blanket of humidity, and about 10 flies interested in the root canal procedure I was doing. . . . The humidity clung to me—and my gloves, scrubs, and mask clung to me even tighter. My chair was at the edge of the stage and I would send God a grateful prayer every time a heavenly breeze crossed me.” Then she addressed the impact of her time



*Dr. Mercado is surrounded by serious friends (L-R): Oscar Perez, Marianne Demirdji, Devin Bowyer, Natalie Sayegh, and Edwin Bravo.*

in this environment: “[After] I had spent only five days at this place, I was irrevocably attached. I experienced more kindness and gratefulness during that week than I had my whole life. Not only that, I had become the person I had envisioned myself to be prior to coming to dental school.”

Marianne Demirdji with teenagers at the school: “We would talk during the breaks about which student they had a crush on, if they had a girlfriend, what they wanted to be when they grew up, and of course, Facebook and selfies.”

Working at Colegio Bautista with school children, Natalie Sayegh (DDS class of '16) commented, “I was able to instantly recognize the impact that [my dental care] could have on my patients’ daily lives. There was one significant case I will never forget. Dr. Henry Mercado was screening patients and he called me over to look at a patient. She opened her mouth and I was floored. I wasn’t sure where we should even begin. She had rampant decay on every tooth in her mouth. We agreed that we would need to restore the top six and bottom six teeth. When I completed the fillings and showed her a photo of her newly restored teeth, it was clear that she was very moved. It was easy to get caught up and feel swamped by the number of patients waiting to be treated, so moments like this were crucial to remind us of the reason we came to Nicaragua in the first place.”

### **Our clinic at Colegio Bautista**

Interaction with patients in Nicaragua, more intense and varied than those experienced at the School of Dentistry,

evoked multiple positive encounters. On the second day of clinic, Tom Chen, DDS’85, addressed Sterling Thompson (DDS class of '16), “I have a special case for you.” The patient had a fractured central incisor. Especially interested in esthetic cases, Sterling wanted to take before and after pictures. It required some coaxing to persuade the girl, embarrassed by her looks, to smile for a picture. Once done, and pleased with the way his treatment turned out, Sterling took a picture of the completed procedure. Showing the patient her picture, he reported, “My patient just started crying. She jumped out of the chair and gave me a big hug, looked at the picture, again, cried some more, and hugged me some more. It was such a rewarding feeling to make someone feel that way with a fairly simple procedure. [Later] the girl was going around to all her friends at the school, showing off her tooth and new smile. . . . She worked with us the whole week, and when we were leaving she thanked me again and again for what I did.”

Kyle Leis (DDS class of 2018) affirms the mission trip experience: “The whole reason I decided to come to Loma Linda was because of this university’s commitment to undertaking mission work around the world and here at home. I think that my experience on this trip has confirmed my confidence in the university’s ability to accomplish this goal now and into the far future.”

Assessing what he called the “enormous impact” his mission experience had on him, Samuel Karavan (DDS class of '18) said, “We are so overwhelmed with books and exams that at times we forget the real reason we are in dental school. It’s hard to talk to typodonts, but interacting with live patients was a completely different experience. It was such a humbling experience to witness the circumstances these people live in. I can honestly say that even though this trip definitely had an impact on me, it also had an impact on all of the patients that were treated. There was a lady who came in; all of her incisors were chipped. It was embarrassing for her to even smile. After she was treated, she was so grateful. She left with the biggest smile on her face, thanking everyone. It’s moments like these that make dentistry worthwhile. I would definitely do this trip again.”

Several students’ conclusions on their mission experience ended with the assurance that they anticipate mission service in the future during the pursuit of their careers, an endorsement of the service orientation that prompted the establishment of Loma Linda University School of Dentistry.

*Granadan patients leaving the clinic after treatment would stop to reassure the people waiting in line, describing their own painless procedures.*

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# The 120<sup>th</sup> Anniversary of the Discovery of X radiation and Dental Radiology

Kenneth Abramovitch, DDS, MS

## Introduction

Dental radiology, known today as oral and maxillofacial radiology (OMR), just reached its 120<sup>th</sup> anniversary in January 2016. The birth of the dental imaging era really began with the accidental discovery of X radiation by Wilhelm Conrad von Roentgen in 1895. Like most major advances, the discovery of X rays was accidental and was not part of the investigator's primary concern.

## Discovery of x-radiation

During the latter part of the nineteenth century, much of the research conducted by leading scientists was directed toward understanding the dynamics of cathode rays. Cathode rays are high-speed electrons produced by applying an electrical charge to the various gases in the vacuum within a glass cathode ray tube. Johann Wilhelm Hittorf (Figure 1a), a German physicist, had improved the shape and design of the cathode ray tube in the late 1860s. Williams Crookes (Figure 1b), an English physicist, also improved the design of these glass tubes that became known as the Crookes tube. These newly designed glass tubes were enhanced to withstand the heat and electrical potentials used in the research. Unbeknownst to Crookes and Hittorf at the time, the various combinations and permutations in the shape, size, and electrode placement of their tube designs would play a significant role in physics research and x-ray production for the next fifty years. The various tubes being used became known as Hittorf-Crookes tubes (Figure 1c).

Like many physicists of his day, Roentgen (Figure 2) was investigating the properties of cathode rays. His primary research focus at the time was the properties of cathode rays in the dark. Folklore offers an interesting explanation for this fateful decision to work in the darkness of the evening. As a young man, the mischievous Roentgen was expelled from



Fig 1a. Professor Johann Wilhelm Hittorf (1824-1914)

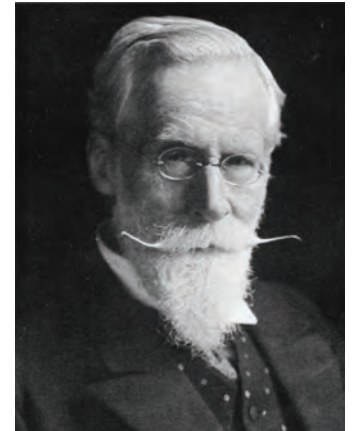


Fig 1b. Sir William Crookes (1832-1919)



Fig. 1c. Examples of Hittorf-Crookes tubes. These hybrid tubes varied in size, shape and electrode placement. They became the preferred cathode ray tubes for scientists. When applying a voltage potential of up to 49keV, a stream of cathode rays was produced. Much research was dedicated to the properties of cathode rays produced in these tubes by many of the prominent scientists in the latter nineteenth century. This research is what led to the discovery of X rays.

*I want to acknowledge the many mentors who meticulously tracked the history of the discovery of X radiation and dental radiography. The rich history of the dental profession exists because of the efforts of the pioneers who developed the technologies from which we reap the contemporary benefits. I wish to personally recognize the efforts of the following mentors from whom I have gleaned much of this historical information: Dr. Olaf E. Langland, Dr. Peter Fortier, Dr. Stuart C. White, Dr. Kavas Thunthy, Dr. Axel Ruprecht, and Dr. Robert P. Langlais. Much credit belongs to them for perpetuating the deep history of oral and maxillofacial radiology. However, colleagues who continue to share this history include Dr. Marc Semper (Gengenbach, Germany), Dr. James Geist (Detroit, Michigan), and Dr. Johan Aps (Seattle, Washington). Many thanks are extended to all of these individuals.*

*Figures 1a, 1b, 2, 6, 8, 9, 11 and 12 were provided for this article courtesy of Dr. Marc I. Semper.*

school for unacceptable behavior. Because of his youthful transgressions, Roentgen was not permitted to study in the more esteemed universities of his time. He did graduate with a doctorate from the University of Zurich in mechanical engineering in 1869 and eventually gained employment at the University of Strasbourg (1876) and then at the University of Würzburg (1888) in Germany. But Würzburg was ranked well below the larger institutions of higher learning in Munich and Berlin. Because his department was small and his days

were preoccupied by administrative and teaching responsibilities, Roentgen studied the properties of cathode rays at night, in the dark.

In the darkness of the evening of November 8, 1895, Roentgen was performing his electrical experiments with Crookes tubes by covering them with light-proof barriers to document the properties of cathode rays. When Roentgen charged the covered cathode ray tubes with an electric current, he found cathode rays were not capable of penetrating the draped and darkened tube barriers.

From more than a century's distance, the exact sequence of events is unclear; but Roentgen did make two major unintended findings: The first was that when he charged the cathode ray tubes, a cardboard screen coated with barium platinocyanide crystals ( $\text{BaPbCN}$ ) that was left to dry on the work bench near the Crookes tube (Figure 3) glowed brilliantly. His second finding was that the glow intensity and duration were directly dependent on the duration and intensity of the electrical charge in the Crookes tube. The cardboard glowed even at a distance of approximately nine feet from the Crookes tube. When Roentgen walked over to examine the glowing screen on the other side of the room and passed between the covered tube and the screen, he cast a shadow on the screen. He then suspected that another ray was escaping his covered tube. Even when he turned the platinocyanide crystals away from the tube, these other rays were penetrating the back side (verso) of the screen and the crystals were still fluorescing. When he placed a thick book between the tube and the screen, the fluorescence remained. He followed this by placing his hand between the tube and the screen. As noted from the historical accounts of Satterlee,<sup>1</sup> Roentgen "saw to his utter amazement depicted before him the complete shadowgraph of his hand . . . the bones were outlined in solid black through the less dense flesh of his hand!" He called the image of his hand bones that were projected on the wall a *skiagram*.

The old lab at the University of Würzburg physics building where Roentgen conducted his research still exists and has been preserved as part of the Roentgen Museum in Würzburg, Germany. The cabinetry and equipment maintain their century-old authenticity (Figure 4).



Fig 2. Wilhelm Conrad Von Roentgen (1842-1923) was one of many scientists of his day to discover X rays.



Fig. 3 (inset). An artist's simulation of Roentgen discovering X rays late on Friday evening November 8, 1895. Although he could not observe cathode rays penetrating the barrier through the Crookes tube, he did notice a brilliantly glowing cardboard screen coated with platinocyanide crystals that occurred in direct response to the duration, intensity, and distance from the charged tube.

Fig. 4. This present-day restoration of Roentgen's laboratory is now part of the Roentgen Museum at the Physical Institute of the University of Würzburg (now the University of Applied Sciences Würzburg). This room is closed to the public; the photo was taken through a glass window.

In the next few weeks he modified his x-ray production techniques to produce on December 22, 1895, a photographic image of his wife Bertha Roentgen's hand—an image so vividly produced by mainstream historians (Figure 5). Roentgen then submitted his first paper in German, "On a new kind of rays" to a colleague in the Würzburg Physico-Medical Society.<sup>2</sup> Since the rays producing the images were not cathode rays, he referred to the new ray as "X," the algebraic term for an unknown. He also submitted copies of his article to some of his colleagues in Europe. Within weeks, his paper experienced international recognition in other scientific and newspaper publications.

Once he had a more predictable image production protocol, Roentgen demonstrated his imaging technique to the Würzburg Physico-Medical Society on the evening of January 23, 1896. He used the presentation to take a radiographic image of the hand of his colleague, the distinguished professor of anatomy, Albert von Kolliker (Figure 6). This image is often mistaken as that of Mrs. Roentgen's, but a closer observation of the literature at the time records that the hand in this image is that of von Kolliker.

It was Von Kolliker who suggested naming the new rays *Roentgen rays*, after the discoverer. This term "roentgen rays," and "roentgenograph," were very popular in the European literature and are still used. The term X ray is more popular in North America, probably because of the ease of its pronunciation. So great were the practical applications of

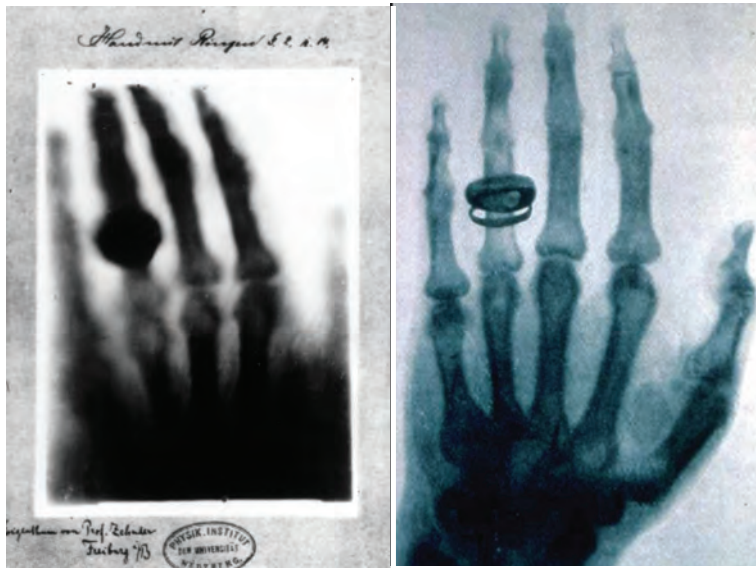


Fig. 5 (left). The skiagraph of Mrs. Bertha Roentgen's hand was taken on December 22, 1895. Dr. Roentgen worked for over one month after his original discovery of x-radiation on November 8, 1895, to disseminate the information on December 28, 1895. Fig. 6 (right) is a skiagraph of the hand of Roentgen's colleague, the anatomist Alfred von Kolliker taken during Roentgen's presentation to the Würzburg Physico-Medical Society on January 23, 1896. It is often confused by historical sources with the earlier image of Bertha Roentgen's hand, even though it had received comparable distribution by Roentgen.



Fig. 7. Arthur Willis Goodspeed (1860-1943) an American physicist at the University of Pennsylvania, and his colleague photographer William Nicholson Jennings (1860-1946) realized retrospectively that they were producing x-rays during their experiments in 1890. However, Goodspeed acknowledged that credit for the discovery belonged to Roentgen.

X rays that Roentgen won the Nobel Prize in physics in 1901.

### Co-discoverers of X rays

Many of his scientific cohorts at the time who were also experimenting with Crookes tubes were also generating X rays. However, they either did not realize it or did not bother to report it.

Dr. Arthur Willis Goodspeed (Figure 7), an American physicist at the University of Pennsylvania, and his colleague, the Philadelphia photographer William Nicholson Jennings, conducted many experiments on the spark gaps of induction coils

that were used for electrical charges to Crookes tubes. They meticulously kept a written record of their work and could trace records of their work to February 22, 1890. In so doing, fog marks and unusual shadows of coins were produced on unexposed photographic plates that were in the vicinity of other photographic plates used for these experiments. These photographic plates ended up being developed with the photographic plates exposed to document their studies (Figure 8). These unusual results were merely part of their records and might have been destined to obscurity. However, following Roentgen's discovery, it became apparent to Goodspeed that the shadows of the coins and the fog were generated

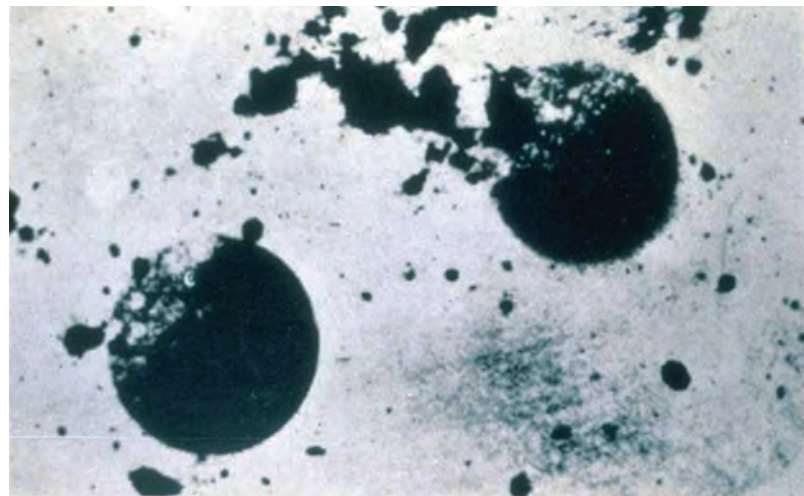


Fig. 8. Image of fog marks and unusual shadows from the experimental records of Dr. Arthur Goodspeed and William Jennings. Retrospective review of their meticulous scientific records permitted them to demonstrate that they too unwittingly documented the production of X rays six years prior to Roentgen.

from X rays. It was recorded at the time by Goodspeed in 1896: "Now, gentlemen, we wish it clearly understood that we claim no credit whatever for what seems to have been a most interesting accident, yet the evidence seems quite convincing that the first Roentgen shadow picture was really produced almost exactly six years ago tonight, in the physical lecture room of the University of Pennsylvania."<sup>3,4</sup>

Similarly, the German physicist Philipp Eduard Anton Lenard (Figure 9), and Ukrainian physicist Ivan Pavlovich Puluj (Figure 10) also worked with Crookes tubes and realized later that in the process of their experimentation they were also producing X rays. Lenard worked extensively with cathode rays and even developed the Lenard Window for Crookes tubes. This window permitted better transmission of cathode rays outside the Crookes tube vacuum.<sup>5</sup> During one of his experiments, the fluorescence from the dissipated



Fig. 11. The first photographic recording of a radiograph in North America was taken at the Dartmouth Hitchcock Hospital (Hanover, NH) on February 3, 1896. The patient injured his left wrist while ice skating. Note the glow of the x-ray tube in the center of the image. The referring physician, Dr. Gilman Dubois Frost (standing), the physicist and radiographer, Dr. Edwin Brant Frost (seated), the patient, Eddie McCarthy and his mother appear in this nine-minute exposure. Dr. Frost used the image to guide his setting of the fracture.

rays caused barium-platinocyanide-soaked paper to glow. Lenard had unknowingly discovered evidence of X rays, but failed to investigate the strange phenomenon further. Lenard retrospectively realized that the penetration of cathode rays through his aluminum window included X rays. Later on in his career he established strong political ties with the Nazi party in Germany and was appointed its chief of Aryan physics. As part of the political propaganda of the times, Lenard claimed that he, rather than Roentgen, was the discoverer of X rays. However, the historical record is clearly not in agreement. Despite his disputing Roentgen's achievements, Lenard did receive the Nobel Prize in Physics in 1905 for the merits of his work with cathode rays.

Some fourteen years prior to Roentgen's discovery, Dr. Ivan Pavlovich Puluj (1845-1918) refined the Crookes tube to a degree that he sold his own version for cathode ray experimentation that became known as the Puluj Lamp. With his tube he produced radiographic images as early as 1881 but never disseminated this information beyond his classroom.<sup>6</sup> Only retrospective to Roentgen's publications did the x-ray production by people like Goodspeed, Lenard, and Puluj become known. However, until Roentgen popularized his work, their earlier efforts were largely obscured.

Physicists, as opposed to physicians and dentists, were the original innovators of x-ray technology. Physicists were the ones with ready access to the Crookes tubes, induction coils, image plates, and other armamentarium essential to x-ray production. However, because of the close collaboration between physicists and medical practitioners (physicians and dentists), the capture of skeletal images quickly followed. One of the first recorded radiographic images in North America was the image of a Colle wrist fracture taken at Dartmouth College in Hanover, New Hampshire, by the physicist Dr. Edwin Frost, in collaboration with his physician brother Dr. Gilman Frost<sup>5</sup> (Figure 11).

### The first dental radiograph

Dr. Friedrich Otto von Walkhoff (Figure 12a), a dentist in Braunschweig, Germany, is credited with taking the first dental radiographs less than two weeks after Roentgen's announcement of the "X" ray discovery.

On January 12, 1896, he placed a small glass photographic plate coated with a rubber dam in his own mouth, then stabilized himself by lying on the floor for a 25-minute exposure. His colleague, Professor of Physics Fritz Giesel, controlled the x-ray production for the duration of the exposure. The resulting shadows were less than adequate for any diagnostic purposes, but the implications for a



Fig. 9 Dr. Philipp Eduard Anton Lenard (1862-1947) patented the Lenard Window, which became a major innovation for those experimenting with cathode rays.



Fig. 10. Dr. Ivan Pavlovich Puluj (1881-1918) created radiographic images that preceded those of Roentgen by fourteen years—1881 versus 1895.

perfected version of the technique were immense. (Figure 12b).

Carl Georg Walter König (Figure 13a), a physicist at the University of Leipzig, published a radiographic atlas in March 1896.<sup>7</sup> The atlas displayed multiple types of radiographic images of small fauna including birds, reptiles, crustaceans and amphibians. There were also radiographs of jewelry, human extremities and anterior teeth. The images of the teeth are recorded as being exposed on February 1, 1896 (Figure 13b). König used a different type of tube and was able to reduce the exposure time to nine minutes for the anterior maxilla and five minutes for the anterior mandible.

Doubt has been raised about the authenticity of Walkoff's reported dates of taking the first radiographs of teeth. The time-frame between the release of Roentgen's initial paper<sup>2</sup> and the January 12<sup>1</sup> reported date of Walkoff's images are very close; perhaps too close to have practically occurred within this short time frame.<sup>8</sup> It may be that König actually had recorded the first



Fig. 12a. Friedrich Otto von Walkoff (1860-1934),

dental radiographic images, but January 12, 1896, is generally considered the beginning of the dental radiology era.

**The modern era of dental imaging**

As imaging techniques became more refined, so did the portability of the glass x-ray tubes. Eventually the units became smaller so that there could be adequate comfort and stability for the long dental exposures.

In time the units were manufactured with more support and physical barrier protection from the heat and electrical sparks. The images included here demonstrate the rudimentary imaging techniques and shadow-casting of the earliest x-ray apparatus (Figure 14).

William David Coolidge was an electrical engineer working for the General Electric Company in New York in the early part of the twentieth century. One of his projects was to design a more compact, portable x-ray imaging system that could be used for medical casualties on the European battlefields of World War I. Eventually Coolidge developed several patents and produced



Fig. 13a. Carl Georg Walter König (1859-1936)



Fig. 12b (left). Image of the first dental radiograph taken by Walkoff.

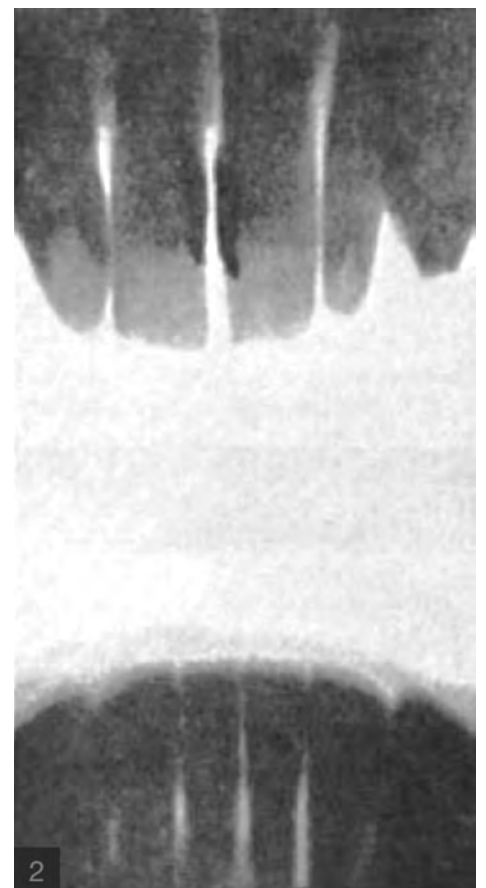


Fig. 13b (right). These intraoral radiographic images were included by König in his atlas published in March 1896. His exposure time of nine minutes for the maxillary view and five minutes for the mandibular projection were dramatically shorter than Walkoff's 25-minute dental exposures.

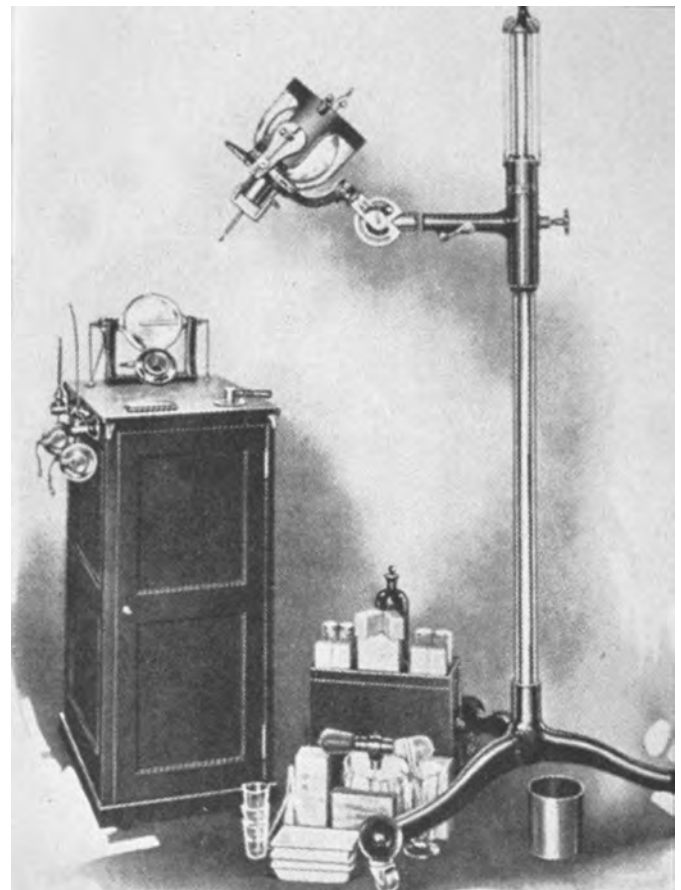
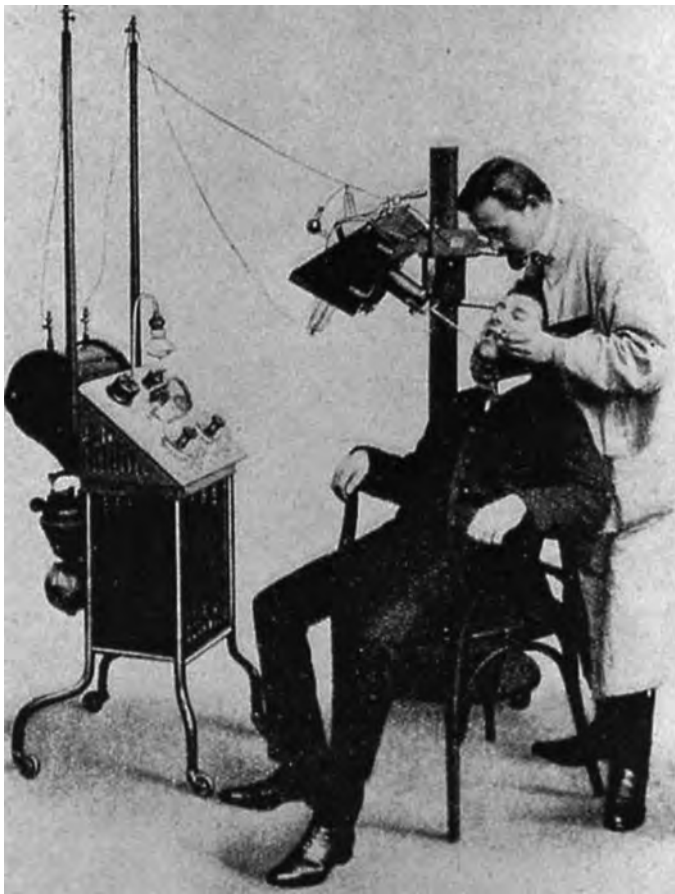


Fig. 14. Examples of early intraoral imaging units supported on mobile stands. The control panels, induction coils, and Hittorf-Crookes tubes were all separate components connected by electrical circuits and supported by multiple cabinets. These units were bulky and lacked radiation, electric, and heat shielding.

an enclosed x-ray tube that no longer needed cathode ray interactions with gas within the Hittorf-Crookes tube. The new unit, the Victor Company CDX x-ray unit that Coolidge designed, had smaller enclosed x-ray tubes. The units were self-contained and shock-proof. The x-ray tubes were also oil-immersed, shielding patients and operators from radiation, heat, and

electricity. It also had better controls of the electrical potentials. These units debuted in 1919 (Figure 15a).<sup>9</sup>

Despite the more recent innovations and transitions in dental image receptors from photographic plates, to film, phosphor plates and digital sensors, the basic design of the x-ray machine has changed very little since Coolidge's



Fig. 15a (left). The Victor CDX intraoral x-ray unit was developed by William David Coolidge and introduced in 1919. General Electric later bought the Victor Company. Compared to examples of its predecessors in Figure 13, the CDX was much smaller with all the parts being self-contained. The enclosed design also boasted heat, electric, and radiation shielding.

Figure 15b (right). This contemporary GE Expert intraoral x-ray unit was chosen to equip the new LLUSD Price Family Radiology and Imaging Clinic.





Figure 16. The Aribex Nomad portable hand-held x-ray unit is recommended for use in remote areas where installation of standard intraoral, panoramic, or advanced imaging systems is not possible.

redesign. Contemporary standard units (Figure 15b) are much improved in the efficiency of x-ray production and are equipped with microprocessor digital timers with settings as low as 0.01 seconds. The exposure times for imaging teeth can be as low as 0.06 seconds. The exact setting depends on the sensor type, area exposed and focal projection distance.

To complete the evolution of intra-oral x-ray units, hand-held portable x-ray units were introduced shortly after the new millennium (Figure 16).<sup>10</sup> Their intended use is for dental imaging needs in remote health care facilities or for non-ambulatory patients—situations in which it is physically impractical to use standard units. Although their ease of use is their main benefit, issues of x-ray shielding and operator protection remain.

## Conclusion

After 120 years of intraoral dental radiographic exposures, contemporary units are void of the physical hazards and radiation risks of the pioneering days of dental imaging. Although there remains a need for intraoral imaging, current radiographic selection criteria as indicated by the United States Food and Drug Administration<sup>11</sup> support the use of panoramic imaging for initial patient dental examinations. Image resolution of dental structures remains the highest with intraoral imaging, but the advent of 3D imaging of dental structures with cone beam computed tomography (CBCT) is further adding to the imaging armamentarium for dental patients. The additions of panoramic radiography and CBCT are decreasing the future indications for intraoral imaging.

## Bibliography

1. Satterlee FLR. Dental radiology. New York: Swenartom Co., 1913.
2. Roentgen WC. On a new kind of ray. *Science* 1896;3(59):227-31.
3. Goodspeed AW. Remarks made at the demonstration of the Roentgen ray at stated meeting, February 21, 1896. *Proc Amer Philos Soc* 1896;35(150):17-36.
4. Walden Jr TL. The first radiation accident in America: a centennial account of the x-ray photograph made in 1890. *Radiology* 1991;181(3):635-639. DOI:<http://dx.doi.org/10.1148/radiology.181.3.1947073>
5. Glasser O. Early American roentgenograms. *Am J Roentgenol Radiat Ther* 1945;54:590-594.
6. Mayba II, Gaida R, Kyle RA, Shampo MA. Ukrainian physicist contributes to the discovery of x-rays. *Mayo Clin* 1997;72:658.
7. Koönig W. 14 photographien mit Röntgen-Strahlen aufgenommen im Physikalischen Verein za Frankfurt a. M. Leipzig:Barth, 1896.
8. Semper MI. History – 120 years of dental radiology. *Voxeltalk* 1201-2016 DOI: <https://voxeltalk.wordpress.com/2016/01/12/geschichte-120-jahre-dentale-radiologie-history-120-years-of-dental-radiology/>
9. Goaz PW, White SC. Origins of dental radiology, Chapter 1 In: Goaz PW, White SC. *Oral radiology: principles and interpretation* 2nd Ed. St. Louis, MO: Mosby, 1987.
10. Danforth RA, Herschaft EE, Leonowich JA. Operator exposure to scatter radiation from a portable hand-held dental radiation emitting device (Aribex NOMAD) while making 915 intraoral dental radiographs. *J Forensic Sci* 2009; 54(2):415-21.
11. Health and Human Services; Food and Drug Administration. Dental radiographic examinations: recommendations for patient selection and limiting radiation exposure (Revised 2012). <http://www.fda.gov/or> or [http://www.ada.org/sections/professionalResources/pdfs/Dental\\_Radiographic\\_Examinations\\_2012.pdf](http://www.ada.org/sections/professionalResources/pdfs/Dental_Radiographic_Examinations_2012.pdf)

## General References

1. Langland OE, Langlais RP. Early pioneers of oral and maxillofacial radiology. *Oral Surg, Oral Med, Oral Pathol, Oral Radiol, and Endod.* 1995;80(5):496-511.
2. Langland OE, Sippy FH, Langlais RP. *Textbook of Dental Radiology*, 2nd Ed. Springfield, Ill: CC Thomas, 1984.
3. Goaz PW, White SC. *Oral Radiology: Principles and Interpretation* 2nd Ed. St. Louis, MO: Mosby, 1987.
4. Bushong SC. *Radiologic Science for Technologists* 9th Ed, Mosby, Elsevier, St. Louis, MO, pp. 7 -11, 2008.



*Kenneth Abramovitch, DDS, MS, chair, Radiology and Imaging Sciences, Loma Linda University School of Dentistry*

# History of X radiation and Dental Radiology

Circle the letters of the correct answers.

1. Who is recognized and received a Nobel prize for the discovery of X rays?
  - a. Ivan Puluj
  - b. Philipp Lenard
  - c. Wilhelm Roentgen
  - d. Arthur Goodspeed
2. The person who is most recognized for making the first human radiograph is
  - a. Ivan Puluj.
  - b. Walter Konig.
  - c. Otto Walkoff.
  - d. Wilhelm Roentgen.
3. The body part imaged in the first radiograph was a
  - a. molar.
  - b. hand.
  - c. foot.
  - d. chest.
4. When radiographs were introduced in 1896, exposure times were generally
  - a. 30 - 45 minutes.
  - b. 10 - 30 minutes.
  - c. less than five minutes.
  - d. less than one minute.
5. The first source for X rays were
  - a. enclosed x-ray tubes.
  - b. Hittorf-Cookes tubes.
  - c. Lenard windows.
  - d. induction windows.
6. The first radiographers were
  - a. physicists.
  - b. dentists.
  - c. physicians.
  - d. anatomists.
7. \_\_\_\_\_ is credited with making the first dental radiograph.
  - a. Wilhelm Roentgen
  - b. Arthur Goodspeed
  - c. Walter Konig
  - d. Otto Walkoff
8. Who designed the modern x-ray tube?
  - a. Ivan Puluj
  - b. Philipp Lenard
  - c. William Crookes
  - d. William Coolidge
9. A disadvantage to the use of hand-held, portable x-ray units is
  - a. patient dose.
  - b. operator safety.
  - c. hand-gun design.
  - d. exposure switch location.
10. The \_\_\_\_\_ recommends selection criteria guidelines for prescribing dental radiographs to patients.
  - a. California Department of Consumer Affairs
  - b. US National Institutes of Health
  - c. California Health and Human Services Agency
  - d. US Food and Drug Agency



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## *LLUSD researchers swarm AADR in Los Angeles*

**NEARLY 50** LLU School of Dentistry faculty, staff, and student researchers participated in 22 presentations (oral and poster)—20 of them as presenters—during the 2016 annual meetings of the

American Association of Dental Research March 16-19 in Los Angeles (see box below for a list of oral presentation/poster topics and their LLUSD presenters).

### **LLUSD Presentations at 2016 AADR**

**The Effect of Prophy Polishing on Stained Composite Surface of the Pre-veneered Stainless Steel Crowns**

Jung-Wei Chen, DDS, MS, MS, PhD, professor and director, Advanced Specialty Education Program in Pediatric Dentistry

**Gingival Fluid Volume and Inflammatory Markers in Cigarette Smokers**

Ahmed Khocht, DDS, MSD, professor, Department of Periodontics

**Effect of Technology-assisted Training on Students' Dental Anatomy Waxing Performance**

So Ran Kwon, DDS, MS, PhD, MS, associate professor and director, Student Research, Dental Education Services

**Effectiveness of Hi-shine Polishing Compound on Autopolymerization Acrylic Denture Resin**

Michele Arambula, clinical coordinator, Center for Dental Research

**Bacterial Contamination of Master Gutta-percha Cone Placement In-between Try-in Procedures**

Sean Lee, DDS, professor, associate director, Center for Dental Research

**Effects of Three Tongue Cleaning Modalities on Oral Odor**

Yiming Li, DDS, PhD, MSD, director, Center for Dental Research and associate dean for Research

**Cellular Responses of Fluoride-Resistant Fibroblasts to High Fluoride Concentrations**

Zhe Zhong, DDS, PhD, postdoctoral fellow, research associate, Center for Dental Research

**Cytotoxicity Evaluation of Oxirane/Acrylate Resins**

Wu Zhang, MD, professor and director, Research Services, Center for Dental Research

**Dental Student Perceptions of Older Adults in Geriatric Dentistry Curriculum**

Sue Spackman, DDS, associate professor, Division of General Dentistry

**Assessing Knowledge and Attitudes in Systematic Review Using KACE Instrument**

Afsaneh Matin, DDS, assistant professor, Department of Pediatric Dentistry

**Pediatric Resident Clinical Thinking Skills in Performing Systematic Review**

Samah Omar, DDS'07 (IDP), MSD'11, associate professor, Department of Pediatric Dentistry

**Bacterial Contamination of Implants in Intermediate Storage during Osteotomy Preparation**

Montry Suprono, DDS'07, MSD, assistant professor, Advanced Specialty Education Program in Prosthodontics

**The Association between Parenting Style and Parental Acceptance of Behavior Management Techniques**

Bonnie Nelson, DDS'88, assistant professor and chair, Department of Pediatric Dentistry

**Benzalkonium Chloride Efficacy against Biofilm-Producing Microorganisms in Dental Unit Waterlines**

Raydolfo Apreccio, OD, BS, research associate, Center for Dental Research

**Multilinear Dependency of Orthodontic Movement on Tooth Morphology**

Rodrigo Viecilli, DDS, PhD, associate professor, Department of Orthodontics and Dentofacial Orthopedics

**CBCT Incidence of Radiolucencies in Successful Endodontically Treated Teeth**

Dwight Rice, DDS, associate professor, Radiology and Imaging Sciences

**Mapping Sepsis of Oral Origin**

Amanjot Bains, research volunteer, Department of Perinatal Research

**Studying Dental Dam Outcomes Using Graph Database Principles**

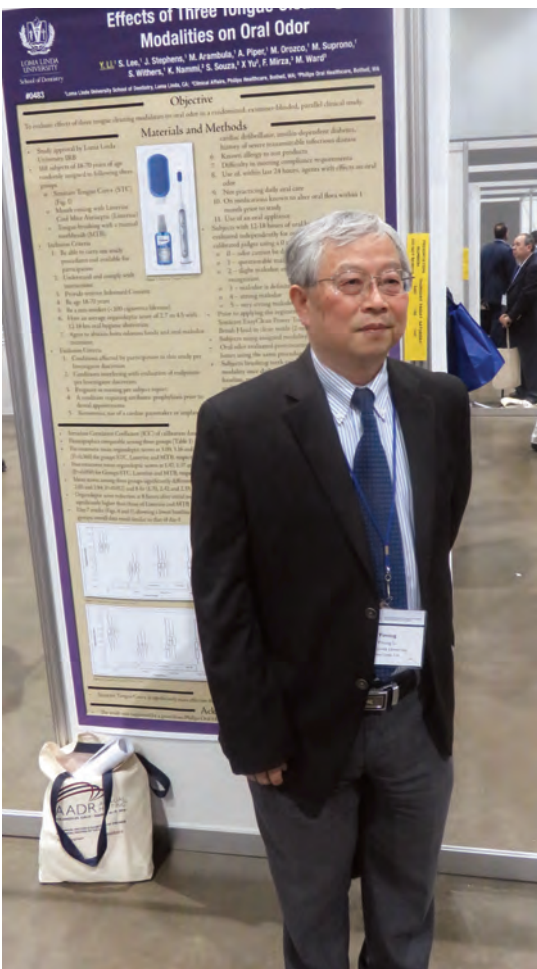
Holli Riter, DDS'98, associate professor, Division of General Dentistry

**Efficacy of Different Herbal Mouth Rinses Against Selected Oral Microorganisms**

Omaima Mohamed, laboratory assistant, Center for Dental Research

**Effect of Clinical Decision Support Tool on Dental Trauma Management in Primary Teeth**

Xuan Lam, DDS, resident, Department of Pediatric Dentistry



Dr. Li stands by his poster on the Effects of Three Tongue Cleaning Modalities on Oral Odor.



Some of the 2016 AADR LLUSD contingent (L-R): Yuhong Xiao, PhD, MD, prosthodontics, Department of Stomatology, Yunkun Hospital, China, visiting scholar, CDR; Jing Ni, professor, DDS, MS, Department of Periodontology, Ninth People's Hospital, Shanghai Jiaotong University School of Stomatology, China, visiting scholar, CDR; Omaina Mohamed, lab assistant, CDR; Cynthia Wicker, administrative assistant, Office of the Associate Dean for Research, CDR; Marilou Laserna, lab assistant, CDR; Zhe Zhong, DDS, PhD, post-doctoral fellow, CDR; Wu Zhang, M.D., professor and director, Research Services, CDR; So Ran Kwon, DDS, MS, PhD, MS, associate professor and program director, Student Research, CDR; Evelyn Fernando, lab assistant, CDR; Yanli Shi, MD, Department of Stomatology, Shandong Provincial Hospital Affiliated to Shandong University, visiting scholar, CDR; Raydolfo Aprecio, research associate, CDR



The 2016 AADR LLUSD Center for Dental Research Dinner at the Casa Nostra Ristorante hosted by Yiming Li, DDS, PhD, MSD, associate dean for Dental Research.



Marilou Laserna and Dr. Montry Suprono

## *LLUSD student researchers exhibit investigatory ethos*

The student research program at LLUSD encourages active participation in the AADR National Student Research Group (NSRG). The School's NSRG councilor, Marianne Demirdji (D4), and SRG representative, Trisha Aprecio (D2), participated in the 2016 NSRG breakfast on March 18 at the Los Angeles Convention Center. The discussion focused on ways the NSRG can help local school SRGs encourage research activity and strengthen their relationships with national organizations.

A student-run organization, the NSRG exists to foster an investigatory ethos at every dental school that nurtures students interested in dental research. NSRG is composed of a network of self-governing student research group (SRG) chapters at each dental school that is led nationally by officers elected

through a majority of votes from all members. Every year the NSRG hosts an NSRG Faculty Advisors' and SRG Presidents' Breakfast meeting during the annual meetings of the American Association for Dental Research (AADR).

As councilor of LLUSD's NSRG group, Ms. Demirdji organized a symposium session, with Mitra Adhami from the University of Alabama at Birmingham, titled, "Preparing for an Academic Life After Training."

Ms. Demirdji, Trisha Aprecio (D2), and Alexander Zaykov (D1) were included March 17 in the 2016 AADR LLUSD Center for Dental Research Dinner at the Casa Nostra Ristorante hosted by Yiming Li, DDS, PhD, MSD, associate dean for Dental Research.



*L-R: Trisha Aprecio (D2), So Ran Kwon, DDS, MS, PhD, MS, and Marianne Demirdji (D4)*

## *LLUSD students compete at CDA Anaheim*

### 2016 CDA Table Clinics Competition

Five LLUSD Honors Program students entered four table clinics at the 2016 CDA student research competition, along with one team of graduate students from the Advanced Specialty Education Program in Pediatric Dentistry. The research topics, their presenters, and their mentors are listed below.

**Linda Sah, Thanh Nguyen, D4 \***

*Comparison of Oral Microflora between Healthy Patients vs Cleft Patients without Presurgical Nasoalveolar Molding Appliance*

**Clinical Category**

Mentor: Dr. Jung-Wei Chen

**Honorary Mention**

**Stephen Barrington, D3**

*Comparison of Dental-related Community-level Hospital Stays Between Rural and Urban California Counties*

**Community Category**

Mentor: Udo Oyoyo

**2nd Prize**

**Charlie Kim, D3**

*Projected Variation in Unmet Need of Older Adult Dental Health*

**Community Category**

Mentor: Udo Oyoyo

**3rd Prize**

**Mason Segura, D3**

*Association of Dental Provider Density with Rates of Dental Emergency Department Visits within California*

**Community Category**

Mentor: Udo Oyoyo

**Honorary Mention**

**Xuan Lam, DMD, MS**

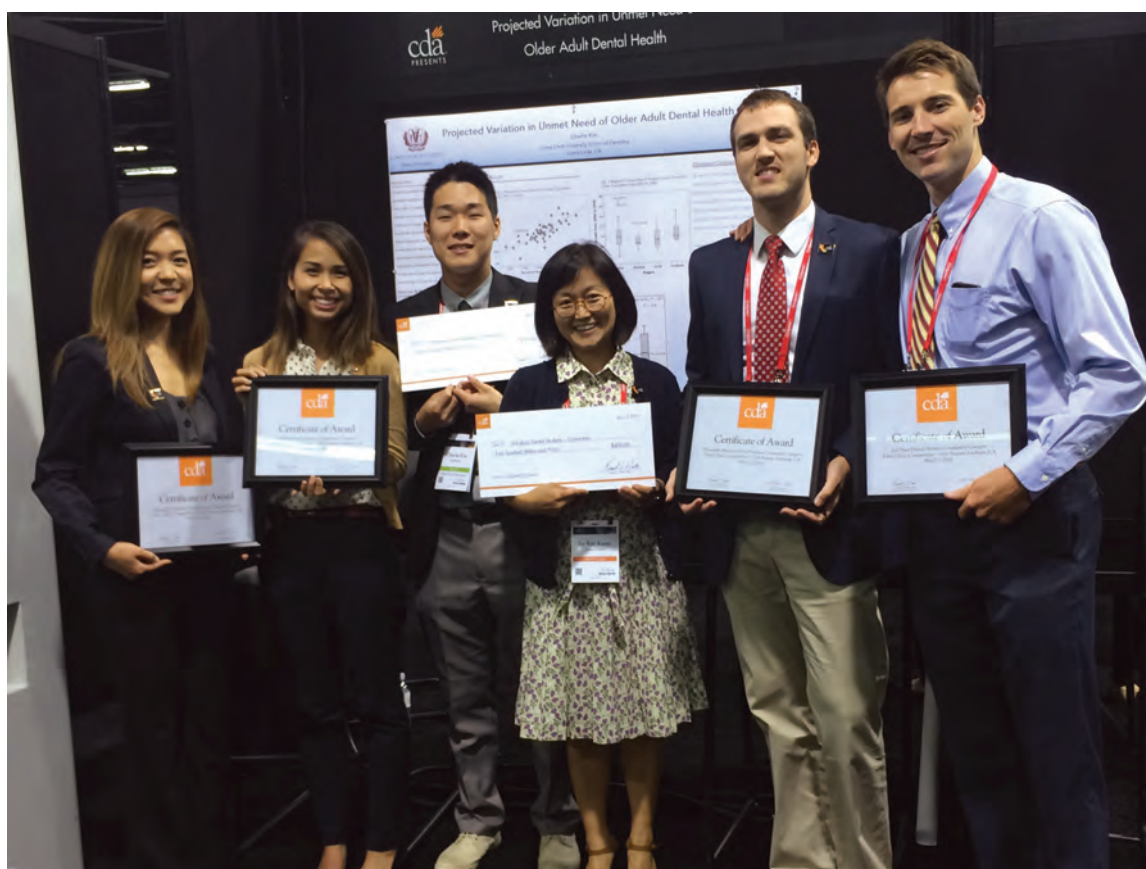
*Effect of a Clinical Decision Support Tool on Dental Trauma Management in Primary Teeth*

**Resident Table Clinic**

Mentor: Dr. Jung-Wei Chen

**3rd Prize**

\* Hanieh Hassani, DDS, 1st year resident, pediatric dentistry, participated in this investigation.



*From left: Linda Sah, Thanh Nguyen, Charlie Kim, Dr. So Ran Kwon, Mason Segura, and Stephen Barrington*

## So Ran Kwon assumes reigns of student research

**S**o Ran Kwon, DDS, MS, PhD, MS, associate professor, Dental Education Services, has been appointed director of LLUSD's student research. Dr. Kwon, who previously worked with LLUSD research students (August 2011 to May 2013), recently completed a three-year program at the University of Iowa's College of Dentistry and Dental Clinics, where she earned American Board Certification in Operative Dentistry. Serving as an associate professor on the UI operative dentistry faculty, Dr. Kwon became the 2015 recipient of the UI College of Dentistry and Dental Clinics' first-year students' Dental Faculty of the Year award.

She will be reinvigorating Loma Linda's student research curriculum—DNES 806/806L and DNHY 421/422—and actively encouraging faculty-mentored student research. Dr. Kwon has enjoyed mentoring students' research projects at predoctoral and postgraduate levels and will strive to establish a nurturing environment for student research that ultimately will foster critical thinking, evidence-based dentistry, and the virtue of life-long learning. She envisions that LLUSD students will have the opportunity to participate at national meetings to interact with fellow students and also assume leading roles to promote research activities that will benefit the advancement of oral health care. She will continue to work together with Udo Oyoyo, MPH, assistant professor, Dental Education Services, and invite LLUSD

faculty members to actively participate in sharing their expertise and to guide and mentor students throughout this program.

Dr. Kwon's main research interest is in esthetic dentistry with a special emphasis on minimally invasive dentistry and tooth whitening. She is an internationally recognized expert in tooth whitening and the author of the two volume *Tooth Whitening In Esthetic Dentistry*, published by Quintessence in 2008. She has contributed to three book chapters on tooth whitening and published more than 50 articles in peer reviewed journals. She was the recipient of the 2012 VITA Award for excellence in research related to color and appearance in dentistry.

Dr. Kwon actively serves the scientific community as reviewer on numerous journals including the *Journal of Dental Research*, *Journal of Dentistry*, *Journal of Prosthetic Dentistry*, and others. In 2015, Dr. Kwon was appointed as an associate editor for the *Operative Dentistry* journal, a refereed professional publication that is sponsored by three academies: Academy of Operative Dentistry, American Academy of Gold Foil Operators, and Academy of R.V. Tucker Clubs.

Dr. Kwon returned with her husband Seok Hoon Ko, DDS, MS, MS, and their two children, Julia (12 years) and Joseph (8 years), and feels blessed to be welcomed back at Loma Linda University.

## LLUSD faculty members receive ADEA appointments

**A** contingent of twenty-nine faculty members and students from the LLU School of Dentistry attended the 2016 ADEA annual meeting in Denver March 12-15.

Several LLU School of Dentistry educators have significant roles with the American Dental Education Association.

So Ran Kwon, DDS, MS, PhD, MS, associate professor and director, Student Research, for the Center for Dental Research, and Steven Powell, DDS'87, assistant professor, Division of

General Dentistry, are chair-elect and secretary, respectively of ADEA's Operative Dentistry Section; while John Won, DDS, head, Division of General Dentistry, and Mark Estey, DDS, director, International Dentistry Program, serve, respectively, as chair and secretary of ADEA's Prosthodontics Section.

As LLUSD dean, Ronald Dailey, PhD, serves on ADEA's Council of Deans.



Dr. So Ran Kwon



Dr. Steven Powell



Dr. John Won



Dr. Mark Estey



## ***Dental Unit Waterlines Testing Service (DUWLs) and Sterilization Assurance Service (SAS)***

***Dental Unit Waterlines Testing Service (DUWLs)*** has been in operation since 2000. We evaluate microbial contamination of DUWLs, and are actively involved in research on DUWLs biofilm removal and treatment methods. Over 500 dental offices, a number of universities, Veterans hospitals, medical/dental centers, and other agencies across 30 states use this service for monitoring the quality of DUWLs.

### **What are the advantages of using LLU School of Dentistry's DUWLs service?**

- The Standard Method 9215 of American Public Health Association (APHA) is used to examine microbial contamination in DUWLs
- Multiple dilutions to detect heterotrophic plate count (HPC) bacteria counts up to 20,000 CFU/mL
- More than 16 years' experience
- Free consultations by experienced staff
- All-inclusive test kit containing sterile sample vials, ice packs, detailed instructions in insulated test packages
- Test reports sent after the seven day incubation period
- Local customers may deliver samples directly to our research laboratory

***Sterilization Assurance Service (SAS)*** was established in 1998 and provides biological monitoring of sterilizers for over 800 dental clinics, community colleges, and medical/dental centers and other institutions in more than 30 states.

### **What are some of the advantages of using LLU School of Dentistry's SAS?**

- More than 19 years of experience
- Choice of Basic, BasicPlus, and Intensive spore testing services to help you meet infection control requirements within your budget
- Return envelopes or prepaid envelopes are included based on your choice
- Option of weekly or monthly reports with available Certificate of Participation
- Failure notification by phone or e-mail on same business day
- Online test results will be available soon

# Dental Unit Waterline Testing (DUWT)



ORDER FORM Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Dr. Name (last) \_\_\_\_\_ (First) \_\_\_\_\_

Name of office \_\_\_\_\_

E-mail \_\_\_\_\_

Customer ID# (for current customers) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

- Use APHA Standard Methods 9215 to test DUWLs samples
- Full dilutions provide accurate Heterotrophic bacteria counts
- Foam box, ice pack, sample vials and instructions are provided

Price / Kits	Amount	Price / Kits	Amount
\$84/3 tests	\$ _____	\$144/6 tests	\$ _____
\$200/10 tests	\$ _____	\$380/20 tests	\$ _____
Optional: Certificate \$12/ea. \$ _____			

## Shipping & handling starting from \$15.00 per box

Check enclosed \$ \_\_\_\_\_ payable to SAS-LLU

Charge: Total \$ \_\_\_\_\_

Card number \_\_\_\_\_

Exp. Date \_\_\_\_/\_\_\_\_/\_\_\_\_ CCV# \_\_\_\_\_ Invoice# \_\_\_\_\_

Mail to: Sterilization Assurance Service  
 Chan Shun Pavilion, Suite A1005  
 Loma Linda University School of Dentistry  
 11175 Campus Street, Loma Linda, CA 92350

Tel: (909) 558-8176

Fax: (909) 558-0307 E-mail: sas@llu.edu

Web: <http://www.llu.edu/dentistry/sas.html>

# Sterilization Assurance Service (SAS)

ORDER FORM Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Dr. Name (last) \_\_\_\_\_ (First) \_\_\_\_\_

Name of office \_\_\_\_\_

E-mail \_\_\_\_\_

Customer ID# (for current customers) \_\_\_\_\_ sterilizer ID# \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Sterilizer Type/Model/Serial #: \_\_\_\_\_

(Supplies for each sterilizer must be kept separate for identification purposes)

Steam \_\_\_\_\_  Chemical Vapor \_\_\_\_\_  Dry Heat \_\_\_\_\_

**Basic (1)** One test strip and one control strip per test (2) Return envelopes  
 (3) Monthly report (4) Failure notification via phone

Price	Quantity	Amount
\$89/12	tests _____	\$ _____
\$119/24	tests _____	\$ _____
\$169/52	tests _____	\$ _____
Optional: Certificate of participation \$12/ea \$ _____		

**Basic Plus (1)** One test strip and one control strip per test (2) Return envelopes  
 (3) Weekly report (4) Failure notification via phone

Price	Quantity	Amount
\$229/52	tests _____	\$ _____

**Intensive (1)** Two test strips and one control strip per test (2) Prepaid return envelopes (3) Certificate of Participation (4) Report on each test  
 (5) Failure notification via phone

Price	Quantity	Amount
\$128/12	tests _____	\$ _____
\$298/52	tests _____	\$ _____

## *IDP 2016 triumphs on boards*



*The triumphant IDP class of 2016 poses with International Dentist Program director Dr. Mark Estey (center with tan coat) and Denise Layne, IDP senior administrative secretary (to his right in pink sweater).*

**F**or two consecutive years (and three of the last six), each member of the graduating classes of the LLUSD International Dentist Program has passed either the Western Regional Exam Board (WREB) or the North East Regional Board (NERB) on the first attempt.

The overall national WREB first time pass rate is typically just above 80 percent.

Gratified IDP program director, Mark Estey, DDS'98, remarks how "truly proud" he is of the IDP class of 2016. "The time and effort they have invested in the program has bettered their skills," and, given their board results, "has really paid off." Dr. Estey hopes "the same desire for learning remains with this graduating class for the rest of their lives, and that they experience God's blessings throughout their careers."

As usual, the IDP graduating class is an exemplar of diversity, with 24 graduating dentists from 13 countries—represented by 13 women and 11 men.

### **IDP class of 2016 by countries of origin:**

1 Brazil	4 Iraq
1 China	1 Jordan
1 Columbia	1 Mexico
1 Germany	1 Moldova
1 Haiti	1 Syria
5 India	1 Ukraine
5 Iran	

IDP's 2016 class representatives are Sukhman Panag and Nataliya Vorobets. One class of 2016 member, Amir Mossadegh, will remain at LLUSD to take the School's Advanced Education Program in Implant Dentistry.

The School's IDP program has come a long way since it first graduated three students in 1987.



## 2016 Children's Day brightened by School of Dentistry volunteers

With perhaps the event's largest turnout to date, the 31st Loma Linda University Children's Day entertained 1,444 youngsters from around the Inland Empire at a variety of engaging educational stations hosted on the University quadrangle by students, faculty, and staff from LLU's various schools.

Jeri Fowler, RDAEF2, OA, assistant director, Alumni Affairs, organized and staffed the School of Dentistry's booth with faculty members and residents from the Advanced Education Program in Pediatric Dentistry, 46 Department of Dental Hygiene students and their faculty mentors Colleen Whitt, BS'79 (DH) MS, and Darlene Cheek, BS'71 (DH) MPH, and residents and staff from the Jerry L. Pettis Memorial Veteran's Medical Center that included Jessica Sung, DMD; Stella Suba, RDA, CDA; Sarah Goodacre, DDS'15; Tina Wan, DDS; Hira Alam, DDS; and Justin Verdin, DDS'.

Each Children's Day guest had the opportunity to learn optimal tooth brushing technique from oral healthcare professionals by practicing on the mouths of a variety of stuffed animals and characters from well-known television shows and movies. Their participation was rewarded by a variety of oral hygiene freebies.

Playing dentist, the children gowned and gloved to perform an oral exam of, and take x-rays on, their stuffed animals, simulating what to expect on their first visit to the dentist. Marie Worcester, dental records auditor for Clinic Administration, constructed cardboard x-ray unit replicas for this exercise. The children thoroughly enjoyed this pretending so much that many of them returned to repeat the process.

Gary Kerstetter, DDS'82, director, Service Learning, organized a very popular venue with the children—the opportunity to tour the School of Dentistry's mobile clinic parked adjacent to the University's Good Samaritan sculpture and participate in hands-on examination in its operatories.

Pediatric dentistry residents and faculty who enriched the children's experience included Jessica Machado, DMD, instructor; Linda Ngo, DDS (second year pediatric resident), instructor; Hanieh Hassani, DDS'15 (first year pediatric resident); Christine Kim, DDS (second year pediatric resident), instructor; Bonnie Nelson, DDS'88, chair; Wesley Okumura, DDS'94, assistant professor; and Jung-Wei Chen, DDS, MS, MS, PhD, director, Advanced Specialty Education Program in Pediatric Dentistry.

School of Dentistry representatives provided a variety of oral hygiene gift to a continuous parade of children under the direction of Ms. Fowler, who enjoyed the assistance of Ashley Vasquez, administrative assistant, and Alfred Batiller, student IV, volunteers from Continuing Dental Education.

Loma Linda's Children's Day guests were provided a lunch by Farmer Boys, a quick-service restaurant chain headquartered in Riverside.

Dorothy Brooks, LLU Children's Hospital representative, who coordinates

the annual event, was "quite pleased" to have "a bigger number than last year and was grateful for "all that you [volunteers] did to make our 31st Children's Day such a great day."



*Prospective healthcare professional appears to believe in the germ theory as he struggles to gown up.*

*Clockwise from upper left:*

- A. *Youngsters practice low resolution imaging on their stuffed animals.*
- B. *In his fireman's hat, PNAM alumnus Noah Thronson works interprofessionally to x-ray his mother's teeth.*
- C. *Jeri Fowler, AS (RDAEF), assistant director, Alumni Affairs, assists a possible LLUSD recruit.*
- D. *Dorian Montesinos, dental assistant, Pediatric Clinic, provides dental education to young acolytes.*
- E. *Young visitors to the School's mobile clinic try one of its operatories.*
- F. *Jessica Machado, DMD, 1st year resident, Advanced Specialty Education Program in Pediatric Dentistry, gives a pediatric visitor some space to explore.*



## Torabinejad honored with fourth AAE award

**M**ahmoud Torabinejad, DMD, MSD, PhD, professor and director, Advanced Specialty Education Program in Endodontics, has been recognized by his colleagues at the 2016 American Association of Endodontists (AAE) meetings (April 8 in San Francisco's Moscone Center) with the Edgar D. Coolidge Award—the Association's highest honor reserved for a limited group of individuals who serve as role models for the entire endodontic community.

As he accepted the Coolidge Award, Dr. Torabinejad thanked his family, friends, mentors, students, and especially the country to which he immigrated from Iran in 1972.

I was very lucky to be in the best country in the world, this is the United States of America. When people talk about the United States of America being the land of opportunity, I'm a living example of it. If you work hard, you can achieve anything. . . . And this country gave me an opportunity, as an immigrant, to live my dreams. God bless the United States of America, the country of my growth. And God bless the country of my birth, Iran. And I hope one of these days—the process has started—the leaders of these two countries will come together and work out their differences. In my opinion, and this has been my belief, you can solve any problem except death. . . .

Dr. Torabinejad concluded, "If you take a look at what the AAE members are made of, and the friendships between all of us, we are like brothers and sisters. Our specialty is unique, and I'm proud to be a part of this organization."

The Edgar D. Coolidge Award is Dr. Torabinejad's fourth award from the AAE following its earlier recognition of his research and educational contributions with the Ralph F. Sommer Award (1986), the Louis I. Grossman Award (1993), and the Philanthropist Award from the AAE Foundation (1997).

The most frequently cited author in endodontic journals, and the author of four textbooks and more than 300 publications,



*Dr. Torabinejad accepts his award as immediate past AAE president, Terryl A. Propper, DDS, MS (left) and AAE honors and awards committee chair, Gerald N. Glickman, DDS, MS, MBA, JD, look on.*

Dr. Torabinejad is best known for his pioneering research in the development of mineral trioxide aggregate (MTA) formulated from commercial Portland cement and combined with bismuth oxide powder for radiopacity as a dental root repair material.

Dr. Torabinejad joined the faculty at Loma Linda University School of Dentistry in 1977 and has served as the director of its Advanced Specialty Education Program in Endodontics since 1989.

To view the American Association of Endodontists' online photos of the event, go online to: [www.flickr.com/photos/118739638@N03/albums/72157667372113625](http://www.flickr.com/photos/118739638@N03/albums/72157667372113625) or: [tinyurl.com/j96x36o](http://tinyurl.com/j96x36o)

## LLUSD NEWS

### *Fedusenko named ASDA District 11 delegate of the year*

**J**ames Fedusenko, president, dentistry class of 2016, and president, LLU American Student Dental Association, received the 2016 American Student Dental Association's District 11 Delegate of the Year Award.

The District 11 trustee selects the recipient from among its six California chapter delegates. According to ASDA's website, the award "recognizes the significant accomplishments and commitment of its delegates."

Formed in 1970, the American Student Dental Association is "a national student-run organization that protects and advances the rights, interests and welfare of dental students" through eleven districts in 40 states across the country that promotes dental student "involvement in organized dentistry and provides services, information, education, representation and advocacy."

As a dental student leader, James recently thanked Ginger Price, DDS'83, in remarks delivered at the Price Family Radiology and Imaging Clinic dedication and open house, February 24, 2016. "From a student's perspective we are so grateful for your generous gift. The radiology clinic renovations



*James Fedusenko*

simultaneously improve the care we are able to provide our patients and enhance the patients' experience."

James will remain at LLUSD to begin in July the Advanced General Dentistry Education Program in Dental Anesthesiology.

### *Steven Morrow, president, Dental Board of California*

**S**teven G. Morrow, DDS'60, MS, assistant dean, Office of Advanced Education, and professor, Department of Endodontics, assumed the office of president, Dental Board of California, on January 1, 2016.

Appointed to the Dental Board by then-Governor Arnold Schwarzenegger in 2010, Dr. Morrow was elected secretary of the Dental Board in 2013.

Along with his duties as professor and assistant dean, Dr. Morrow remains director of LLUSD's Patient Care Services and Clinical Quality Assurance, a responsibility he acquired in 2000.

He is a diplomate of the American Board of Endodontics and a member of the Scientific Advisory Board of the Journal of Endodontics. Dr. Morrow has been a member of the board of directors of the American Association of Endodontists and is a past president of the Southern California Academy of Endodontics and the California State Association of Endodontists.



*Dr. Steven Morrow*

Dr. Morrow was presented the Distinguished Service Award from Loma Linda University School of Dentistry in 2009 and the Distinguished Alumnus Award in 2013.

## *LLUSD alumni, faculty, and students help provide a dental Pathway to Health*



*Dentist classmates (L-R): Brent Shakespeare, Jayson Tsuchiya, Bonnie Nelson, and Peter Young pose at Pathway to Health event.*

**F**our members of LLUSD's dentistry class of 1988, Bonnie Nelson, DDS, chair, Department of Pediatric Dentistry; Brent Shakespeare, DDS, assistant clinical professor; Jayson Tsuchiya, DDS, private practitioner, Los Altos, CA, and Peter Young, DDS, assistant professor, volunteered their professional services at a Pathway to Health event held in the Los Angeles Convention Center April 26-29, 2016.

The four 1988 classmates were among a strong cohort of LLUSD faculty members and students that included

Ron Forde, DDS'83, assistant professor,  
William Heisler, DDS'59, emeritus professor,  
Gary Kerstetter, DDS'82, director, Service Learning,  
Edward Ko, DDS'85, associate professor,  
Alan Woodson, DDS'87, assistant professor;

graduating senior (class of 2016) dental students

John Buie,  
Minyoung Cho,  
Morris Ghermezi,  
Won Young Kim,  
Jimmy Tran, and  
Jeffery Pascal;

Class of 2017 dental students

Eun Soo Lee,  
Hyung Jin Lee; and

a student from the dental class of 2019,

Kathleen Aguilar.

Dental care, the most highly sought-after service, included free crowns, fillings, extractions, cleaning and root canals. All services were provided without restriction or discrimination, regardless of citizenship, insurance or any other criteria.

Your Best Pathway to Health is a service of Adventist-Laymen's Services and Industries (ASI) that organizes mega medical, dental and eye care clinics in cities around the United States. The Los Angeles event was co-sponsored by the Seventh-day Adventist church, Glendale Adventist and White Memorial Medical centers, Loma Linda University, and the Southern California Conference of SDA.

At an April 2015 Pathway to Health event in San Antonio, 1,700 healthcare volunteers provided services to 6,192 patients, in 2.5 days, at an estimated value of more than 20 million dollars. Watch a 4-minute video about the San Antonio event at:

[bit.ly/1H0I6Ea](http://bit.ly/1H0I6Ea)

## Ronald Fritz 2016 Pierre Fauchard honoree

The Southern California Section of the Pierre Fauchard Academy presented Ronald E. Fritz, DDS'72, MPH'72, with an award of Special Appreciation during its May 14, 2016, annual spring luncheon at the Anaheim Hilton.

A fellow of the Pierre Fauchard Academy, Dr. Fritz' Special Appreciation award was in recognition of his "exemplary dedication to the profession of dentistry and for his many distinguished services to humanitarian missions."

Shortly after earning his professional degrees, Dr. Fritz spent six years on a deferred mission appointment working in a private, non-profit clinic, Policlínica Bella Vista, and served as dental director of Bella Vista Hospital, in Mayaguez, Puerto Rico.

In 1978, Dr. Fritz opened a private practice in Escondido, California, that utilized calming verbal imagery as well as IV Sedation to relax patients with dental phobias, simultaneously serving on the staff of Palomar Memorial Hospital where he took cases that required treatment under general anesthesia.

Dr. Fritz spent five years working for Loma Linda University at its SAC Health System's Norton Dental Clinic performing oral surgery for four general dentists.

Dr. Fritz' cynosure is the delivery of oral healthcare to the most needy people, and, given his fluency in Spanish, especially those in Latin America. His most recent mission trip was two weeks to Huatulco, Oaxaca, Mexico, in January of 2016, where the group from Imperial Valley provided much needed care and education to outlying poor areas in rural Huatulco and Puerto Escondido. He has been on similar service trips to Bolivia, Peru, Ecuador, Galapagos Islands, Colombia, Guyana, and Brazil as well as to Mexico, India, China, Micronesia, and multiple islands in the Caribbean.

Dr. Fritz is a member of the American Dental Association, California Dental Association, Colegio de Cirujanos Dentistas de Puerto Rico, and the San Diego County Dental Society, where he has chaired its Well Being Committee. He also helps the Flying Samaritans and Los Medicos Voladores (Flying Doctors) with their

missions of mercy to the underserved in California and Mexico.

Dr. Fritz is a fellow of the American Association of Hospital Dentists (1982), the Academy of General Dentistry (1983), the Academy of Dentistry International (2005), the International College of Dentists (2009), the American College of Dentists (2010), the Pierre Fauchard Academy (2012), and is fellow emeritus, the Academy of General Dentistry (2014).

An international honor dental organization, the

Pierre Fauchard Academy is dedicated to the advancement of the dental profession. Fellowship in the Academy is by invitation only and its current membership is comprised of those individuals who have made outstanding and meritorious contributions to the science and art of dentistry or to society.

Named after Dr. Pierre Fauchard (1678-1761), the father of modern dentistry and author of the ground breaking, 783-page, two-volume *Le Chirurgien Dentiste* (1728), the Academy was organized in 1936 and dedicated to the advancement of the dental profession.

The Academy accomplishes its goals through literature, by encouragement of advanced and continuing education, and by honoring those who have made outstanding contributions to the profession. The Academy has over 7,000 members in 68 nations.



*Dr. Fritz stands with Pierre Fauchard Academy fellows Denise Habjan, DDS, newly installed PFA regent, and with John Taylor, DDS, immediate past director for PFA southern California.*

## LLUSD team Gives Kids A Smile at Trona and at . . .

**W**esley Okumura, DDS'94, assistant professor, Department of Pediatric Dentistry, and Gary Kerstetter, DDS'82, director, Service Learning; led a team of six residents from the Advanced Specialty Education Program in Pediatric Dentistry, one International Dentist Program student, one predoctoral program student, a resident alumnus (2015), and two staff members on a service learning trip (March 3 and 4) to Trona, California.

Established in the late 1800s for the sole purpose of mining and extracting from the brine of the lakebed several valuable mineral products, a former Trona gas station owner described it as "the armpit of the world." Souvenirs sold at Trona's Searles Valley Historical Society museum display a road sign that reads, "End of World, 10 miles; Trona, 15 miles." And the Trona Tornados play on a dirt football field called "The Pit."

At the Trona Elementary School, the School of Dentistry team provided 40 youngsters ages 5-12 \$19,000 worth of much needed dental services that included 18 examinations, 36 BWX, 37 PA, three prophy, three fluoride treatments, 35 sealants, 65

posterior fillings, one anterior filling, one pulpotomy, seven SSC, 22 extractions, and the placement of one space maintainer.

On February 24, Jung Wei Chen, DDS, MS, PhD, director, Advanced Specialty Education Program in Pediatric Dentistry, and Bonnie Nelson, DDS'88, chair, Department of Pediatric Dentistry, led eight residents of the Advanced Specialty Education Program in Pediatric Dentistry, by giving kids (and their parents) a smile through the treatment of 22 children at LLUSD's Pediatric Dentistry Clinic. Some photos from the happy event can be seen on the adjacent page.

Dr. Okumura is LLUSD's liaison to the Tri-County Dental Society's chapter of the American Dental Association Foundation's Give Kids A Smile program established to provide services to underserved children ages 5 to 18 in a variety of venues and events each year. Tri-County provides both financial support and in-kind contributions to the School's efforts to serve children who otherwise might not receive dental care.



*Martha Senar, IDP2, and Amanda Zenthoefer, DDS'14, 2nd year resident, pediatric dentistry, tag team a disappeared grade schooler at Trona Elementary.*



*Participants in the Trona service learning trip took a sight seeing excursion to nearby Death Valley.*



*The Trona Elementary School staff fed the LLUSD team what Dr. Okumura (left foreground) termed "a delicious potluck."*



*In out of the way Trona, its elementary school classroom serves as an operatory.*



Dr. Kerstetter poses with first-year pediatric residents (L-R) Linda Ngo, DDS; Hanieh Hassani, DDS; and Jessica Machado, DMD.



The LLUSD pediatric dentistry team poses with the Crest Mobile Clinic which makes all the difference in remote locations.

### ... LLUSD Pediatric Clinic



Clockwise from upper left: Dr. Hassani works as a youngster reassures her patient. 2nd year pediatric resident, Dr. Adrianna Cuellar, poses with patient and mom. Dr. Chen instructs at kid level. Ebony Reece, RDA, attends a cheerful teenager. Dr. Nelson supervises Amir Mossadegh, IDP (2) and Ruslan Zmievski, IDP2. Dr. Cuellar extracts giggles from a new friend.





## Student Clinic regulars

**A**t the age of 16, Myrna Toth paid her first visit to a dentist's office. She cringes when she recalls that visit. "I remember the pain. Even the novacaine injection was painful," she says. "When I was a child in Wyoming I didn't go to the dentist. We brushed our teeth once a day if mother reminded us. We sought dental care only when a toothache developed." The fear persisted in Myrna's family. "My 20-year-old grandson was scared to death about going to the dentist."

Myrna's husband has similar memories. Before his high school graduation 17-year-old Jim Toth of Providence, Rhode Island, joined the US Marine Corps. "That's what we Americans were doing," this World War II veteran says. Patriotism pervaded. All US marines got dental treatment. In a dental chair for the first time, Jim experienced in a single appointment the drilling of every tooth that needed a filling; then the dentist methodically filled each tooth—all without aid of a painkiller.

Years later Jim and Myrna, now married and living in Orange County, California, found near their home a dentist whose extensive care was satisfying and painless; they were pleased. Upon moving from Orange County in 1985, they asked their dentist for a referral to a Riverside dentist. He called a month later.

"You have to go to Loma Linda University School of Dentistry! Take a book and lunch, because you may be there all day. It's the best. Those students really are already dentists. They are overseen by dental professors."

Myrna says. "It was hard for me to come here. I was living in Menifee." Initially reluctant to put their confidence in the School's dental students, the Toths considered the drive. Based

on the traffic, it would take one-and-a-half to three hours to reach the School. Finally arriving at the School, Myrna sums up the subsequent 30 years of consistent LLUSD dental care: "I have loved every minute of it. I am thrilled to tell someone about the School."



*Jim and Myrna Toth*

How often do the Toths visit LLUSD? Every six months for the past 30 years. "We have learned a lot at Loma Linda," they say, observing, "Seventy percent of the people don't go to dentists until they have a toothache. That's too late." Aware of the impact of dental health on the whole body, Jim advised a grandson concerned about an expensive dental procedure he needed: "If it costs \$7,000, it will be the best money you have spent in your life." And Jim adds, "He completed the procedure successfully."

Myrna cites the benefits of the education received during dental appointments in the International Dentist Program clinic: "Parents need to learn about dental care." She adds, "Our one-year-old great grandson has gone to the dentist. He

brushes his teeth every day. You can't start too soon."

When talk turns to professionalism, the Toths refer to the oversight the dental professors offer in the clinic. Undergoing a crown procedure, Myrna listened as the professor examined the student's progress. "It's good," said the professor, "but 'good' is not adequate. It has to be perfect." It was perfect before she left the clinic.

The Toths credit LLUSD's last 30 years of dental oversight for preservation of their teeth. During a dental exam, when asked, "Are those all your own teeth?" Jim replied, "I've kept all of them thanks to Loma Linda School of Dentistry." Myrna

has lost just one tooth after an earlier faulty procedure, which necessitated bone grafting and an implant. On one occasion during the past 30 years when there were no services available at the School of Dentistry, Myrna visited a dentist near home. The dentist questioned her, "Who's done your dental work? It's beautiful!"

Myrna recounts a memorable day at the School. "I was here for a student taking a dental exam. Upon examination, he had found that I had what he needed: a virgin [untreated] tooth with a cavity. I said, 'Okay. I will bring my tooth to your exam.'

"I arrived at 8 a.m.; the drilling began. It lasted a long time. At noon we had a break. He said, 'Come back tomorrow.'

"I said, 'Why not today?'"

He was solicitous of Myrna's endurance. Myrna was adamant.

He finally said, 'Can you get some lunch?'

"I brought my lunch. It's out in the car. Let's finish this today. What would happen to you if I got killed on the way home?' I asked.

"'I would die,' he said.

"'So let's do it today,' I said. That was the day I was here 8 to 5, and he completed his exam successfully."

Thankful for the oversight of skilled dentists, the Toths find the extended times they spend at the School compatible with their life style. Now a retired engineer and building contractor, Jim spends his time with Myra visiting family members and traveling in their motor home. The couple now cherishes friendships established through the years at the School. They rejoiced with Keri Thies, clinic supervisor, Patient Relations, when she shared the news that she was getting married. They mourned the departure of Dr. Kourt Chatelain, an oral surgery resident who had done Myrna's bone grafting, when he moved to Texas. And they have followed the fortunes of Dr. Zegar Zegar, first as a dental student, then as an instructor in restorative dentistry. "While my wife was getting treatment recently, Dr. Zegar emerged from the clinic to find me in the waiting room," says Jim. "We had a friendly chat during Myrna's appointment. Another patient asked before I left, 'How do you know Dr. Zegar?'"

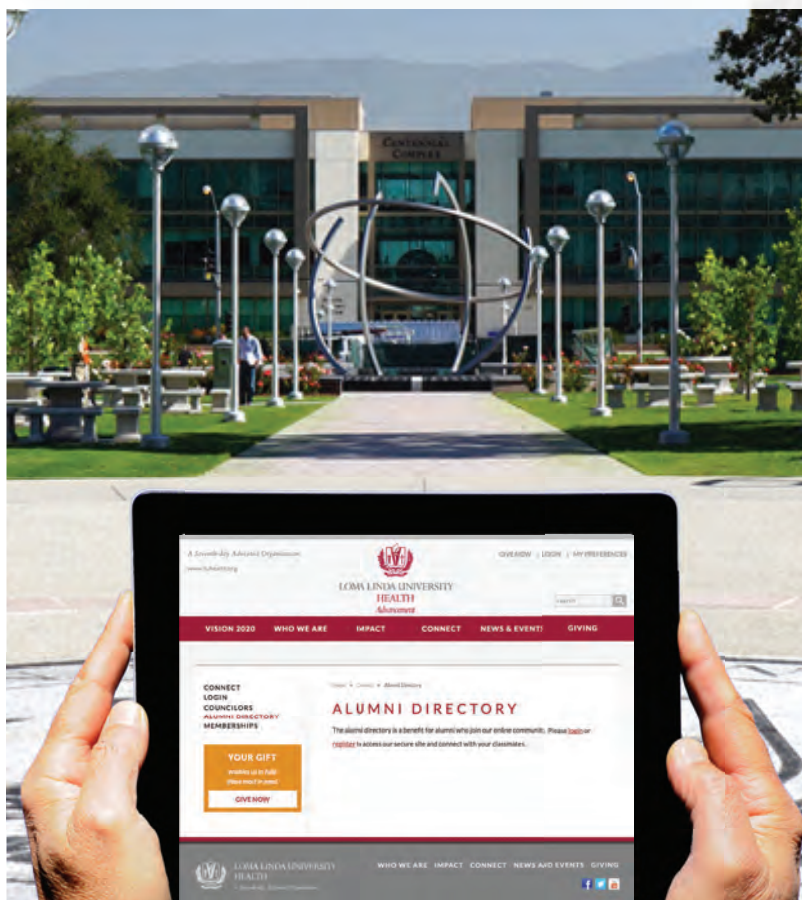
And Jim smiles broadly when he explains, "Just here as a patient!" It's clear that he is also here as a friend.

# VISIT US ONLINE!

[lluhealth.org/alumni-directory](http://lluhealth.org/alumni-directory)

## Log in to our new online directory and reconnect with your classmates!

- Gain access to our private, password-protected alumni community.
- Search our extensive, easy-to-use alumni database.
- Learn about Loma Linda University Health's latest updates and events.



LOMA LINDA UNIVERSITY  
HEALTH

## FOND FAREWELLS

**Robert Wiley Addison***Dr. Robert Addison*

On a family vacation with family in Avon, Colorado, Robert Wiley Addison, DDS '60, died March 6, 2016. Born in Durham, North Carolina, on March 27, 1933, Dr. Addison completed pre-dental studies at Southern Missionary College (now Southern Adventist University) in Collegedale, Tennessee, before entering LLUSD's class of '60.

After a public health appointment with the U.S. Navy in Pittsburgh, Pennsylvania, 1960-62, Dr. Addison established a dental office in Spartanburg, South Carolina, where he would practice for more than

40 years. He became an active recruiter at the School of Dentistry alumni student conventions, seeking graduates to establish dental practices in southeastern United States.

Filling many roles in his local church, Dr. Addison also had an enthusiastic interest in outdoor pursuits including gardening; he planned yearly family vacations to explore outdoor venues.

Predeceased by his son, Robert Martin, Dr. Addison is survived by his wife of 58 years, Janyce, of Spartanburg; three daughters—Angela (husband Dean, MD, LLUSM '88) Lorenz, MA, LLUSPH, '84, of Florence, South Carolina; Susan (husband Kevin) Pennington of McDonald, Tennessee; and Bonnie (husband Gary) Howe of Jacksonville, Florida—and eight grandchildren. Memorial gifts may be given to the Robert and Mark Addison Golden Rule Award, Mount Pisgah Academy, Candler, North Carolina.

**Donald Bowen***Dr. Donald Bowen*

Loyally supportive of LLUSD's class of '60 alumni activities, Donald Bowen, DDS'60, has been missed since his death January 23, 2016, in Napa, California.

Born (February 25, 1935) and raised in Takoma Park, Maryland, Dr. Bowen completed pre-dental studies at Washington Missionary College (now Washington Adventist University) in 1956. Upon dental graduation at LLUSD, he provided dental public health service for the Coast Guard in New Jersey and Virginia before opening a practice first

in Dos Palos, California (1964-68), then in Exeter, California (1968-90). Although health issues prompted an early retirement, Dr. Bowen remained active in his church and continued to pursue hobbies of photography and railroading.

In his St. Helena, California, retirement community, from 2013 until his death, he became the residents' treasured computer technician.

Mourning his death are Dr. Bowen's wife of 58 years, Evangeline of St. Helena; his daughters—Jill (husband Greg) Hoenes, LLUSN'80, of Glendale, California; Heidi Bowen, LLUSN'84, of St. Helena, California; and Julie Bowen, LLUSN'91, of Fresno, California—and a grandson, Brennan Hoenes, a student at Walla Walla University, College Place, Washington.

Memorial gifts in Dr. Bowen's memory can be made to Camp Sunshine Dreams or Sierra View Junior Academy.

**Richard Bietz***Dr. Richard Bietz*

Surrounded by his loving family in Gilbert, Arizona, Richard A. Bietz II, DDS'67, died March 18, 2015. He was preceded in death by his wife Linda.

Born in Jamestown, North Dakota, on January 27, 1942, Dr. Bietz grew up in Lodi, California, and completed pre-dental studies at Pacific Union College, Angwin, California, before entering LLUSD's class of 1967. He began his legacy of family dentistry in Tempe, Arizona, which he would call home for over 47 years. There he became a pillar in the community known for his

integrity, kindness, and generosity. His dedication with the Tempe Diablos, Tempe Sports Authority, Rotary Club, Fiesta Bowl committee, Tempe Sister Cities, and other charity endeavors will be remembered warmly.

Dr. Bietz enjoyed summers at Pinetop, Arizona, traveling, playing golf, fine dining and spending time with his family and friends. When he died (March 18, 2015), he left to mourn his brother, Robert Bietz (wife Marlene) of Lodi, California; son Richard Bietz III (wife Laure) of Mesa, California; daughter Jennifer (husband Scott) Bair of Gilbert, Arizona; and two grandsons. Donations in Dr. Bietz's memory can be made to Hospice of the Valley or the Arizona Humane Society.

**Robert Breckenridge***Dr. Robert Breckenridge*

Born September 30, 1930, in Yucatan, Mexico, Dr. Robert Breckenridge, DDS'65, PG'69, grew up in Lodi, California, and attended Pacific Union College in Angwin, California, to prepare for dental school. Graduating with LLUSD's class of '65, he then pursued oral surgery at Highland Alameda Hospital, where he was chief resident.

Establishing an oral surgery office in Lodi, Dr. Breckenridge practiced there for 40 years while becoming actively involved in the community: a member of the Pierre Fauchard Academy, appointed

by Ronald Reagan to the state board of dental examiners, serving as president of San Joaquin Dental Society, chairing the Lodi SDA Elementary School board, and participating in Lodi's Lions Club and Masonic Lodge. With his family he engaged in the arts, fine food, education, and world travel. A pilot, scuba diver, and voracious reader, he was also famous as a storyteller.

Dr. Breckenridge was preceded in death by his second wife Marnie. Surviving his death in Lodi on April 10, 2016, are Sandra Loewen, the mother of his four daughters—Lisa Breckenridge (husband Andy Cohen) of Los Angeles, California, Mitzi Breckenridge of Lodi, California; Stephanie (husband Mark Dickinson, MD, LLUSM'97) of Redlands, California; and Tiffany Breckenridge of Nashville, Tennessee—and five grandchildren.

## FOND FAREWELLS

### *Durwin Chamberlain*

Albert "Durwin" Harold Chamberlain, DDS, MPH, MS'82, died January 24, 2016, at his home in Sagle, Idaho. Born August 11, 1943, in Bowmanville, Oshawa, Ontario, Canada, Dr. Chamberlain attended Oshawa Missionary College and Andrews University before completing dentistry at the University of Maryland School of Dentistry in Baltimore, Maryland (1969). He would also complete an MPH at LLUSPH, and an MS in periodontics at LLUSD in 1982.



*Dr. Durwin Chamberlain*

He practiced dentistry for 43 years, simultaneously teaching for 20 years in LLUSD's Department of Periodontics, where he also served as the department chair (1985-1990). During Dr. Chamberlain's career he practiced dentistry in Canada, California, and Washington. His favorite free time pursuits included Bible study, theology, hiking, skiing, ice skating, and hockey.

Dr. Chamberlain is survived by his wife of 27 years, Virginia, BS'84 (LLUSDH), of Sagle, Idaho; two sons, Douglas (Beth) Chamberlain of Boulder, Colorado, and Jeffery (Christen) Chamberlain of Charlotte, North Carolina; a stepson, Andrew (Laurel) Haglund of Redlands, California; and seven grandchildren.

Memorial donations may be made in Dr. Chamberlain's name to the Haiti Fund, c/o Adventist Health International, 11060 Anderson St., Loma Linda, CA 92350.

### *Arthur Everett*

A member of LLUSD's first graduating class, Arthur Everett, DDS'57, was born April 4, 1922, in Braxton, Mississippi. After graduating from high school, he served during World War II in General Patton's Third Army as a litter bearer in France and Germany. Returning to Mississippi, Dr. Everett became a finish carpenter before enrolling at Madison College, Nashville, Tennessee. He remained on campus to teach industrial arts until 1953, when he was accepted into LLUSD's class of 1957.



*Dr. Arthur Everett*

Upon graduation Dr. Everett practiced dentistry in his home state until the mid 80s; thereafter he served as a relief dentist in Malawi, Africa. He interspersed his practice with an active interest in building. He built his family home as well as a mountain cabin over a well he had drilled; heated by wood, powered by the sun, it was totally off the grid. He also built the Adventist church and school in Florence, Mississippi, and helped various family and community members build their homes, a pursuit he continued until recently.

When he died in Dayton, Tennessee, on February 15, 2016, Dr. Everett left to mourn his wife of 67 years, Mary Lillie; his four daughters—Peggy Dence, Virginia Davidson, Carol Geisinger, and Rebecca Wolfe, LLUSDH'92—eight granddaughters, one grandson, and 10 great grandchildren.

### *John Cutts*

John Cutts, DDS'72, died at City of Hope, Duarte, California, on February 4, 2016. He had provided dental care in the community of Dinuba, California, for 39 years. Born in Stoneham, Massachusetts, on August 15, 1946, Dr. Cutts completed pre-dental studies at Atlantic Union College before entering LLUSD's class of '72.



*Dr. John Cutts*

Following dental graduation, Dr. Cutts conducted dental care in New Hampshire (1973-74) before establishing a practice in Dinuba, where he was known for keeping informed about his patients' lives. Active in the local dental association and Rotary Club, he also sponsored sports teams in the community, mentoring young golfers. A highlight for Dr. Cutts was winning a gold medal with his softball team at the Huntsmen Senior World Games in St. George, Utah. An avid golfer, he often played more than a normal round of 18 holes. During his seven-year battle with leukemia, he continued skiing, golfing, and other active pursuits.

Mourning Dr. Cutts' death are his wife of 44 years, Judy (BS, LLUSN'69; MS, LLUSN'71) of Dinuba, California; his daughter Jennifer, LLUSDH '02 (husband Robert Keszler, LLUSM '98), of El Dorado Hills, California; and one grandson.

### *Betty Griffin*

A sudden heart attack at her mountain cabin home in Sevierville, Tennessee, ended the productive life of Betty Griffin, BS'64 (DH), on June 28, 2015. Born February 13, 1942, in Philadelphia, Pennsylvania, Ms. Griffin grew up in Smyrna, Delaware, and attended Columbia Union College in Takoma Park, Maryland, before entering LLUSD's dental hygiene class of '64.



*Ms. Betty Griffin*

In a public health position in Montgomery County, MD, and later in Ohio, she pursued a dental hygiene career until leaving her profession to join an insurance agency in Mt. Vernon, Ohio, established by her husband Gordon.

In retirement, Ms. Griffin and her husband were operating an overnight tourist log cabin rental business in Pigeon Forge/Gatlinburg, Tennessee. She was very active in her local church and conference, serving as Sabbath School teacher, church elder, and conference executive committee member.

Mourning her death are Ms. Griffin's husband, Gordon, of Danville, Ohio; two sons—T. Britton (wife Valerie) Percy of Westfield, Massachusetts; and Michael R. (wife Nicole) Percy of Mt. Vernon, Ohio—a brother Charles (wife Grace) Ruch, LLUSM'58, of Annapolis, Maryland—a stepdaughter Karen (husband John) Feltman of Mt. Vernon, Ohio; and a stepson, Rodger (wife Paula) Griffin, of Phoenix, Arizona; five grandchildren, and one grandchild.

## FOND FAREWELLS

**Arlene Klooster****Ms. Arlene Klooster**

Former first lady of the School of Dentistry, Arlene Klooster, BS'71 (DH), died March 25, 2016, in Loma Linda, California. Born on May 14, 1925, in Glendale, California, she soon exhibited considerable musical talent; she was still a teenager when she became a sought after church organist and pianist. While pursuing pre-nursing at Pacific Union College, Angwin, California, she met Judson Klooster, who claimed her as his bride in 1948 after she completed nursing at the White Memorial Hospital in Los Angeles.

The Kloosters lived a year in San Francisco then moved to Escondido, California, where Mrs. Klooster combined her roles as homemaker, gardener, cook, and mother to her three daughters. When Dr. Klooster joined LLUSD'S faculty in 1968, Mrs. Klooster pursued a second career after earning a dental hygiene at LLUSD in 1972. She accompanied her husband on his business-related travel, when he became dean of the School, which included such destinations as China, Africa, Singapore, Puerto Rico, and India. She also achieved fame as a consummate hostess, entertaining scores of people in her home almost weekly.

Preceded in death by her husband, Judson, and daughter, Cherylin Peach, Mrs. Klooster's survivors include two daughters, Lynette Tibbetts and Terrill McClanahan, six grandchildren, and two great-grandchildren.

**Charles Lutz****Dr. Charles Lutz**

Born December 13, 1946, in Fowler, California, Charles Lutz, DDS'71, developed gardening skills and a passion for the night sky. In his youth he gained a fine reputation for athletic talents, achieving a rare ability to pitch a baseball and softball with equal skills; he also excelled at golf.

Dr. Lutz attended Pacific Union College, Angwin, California, for three years before entering LLUSD's class of '71. After dental school graduation, he opened a dental practice in Madera, California, working with his uncle, John Lutz, DDS'58.

Active in his church family and in his community, Dr. Lutz also practiced his vocation on overseas mission trips, which took him to Russia and to Mexico. In Mexico he helped to build a clinic. At home he provided care for Central Valley residents who were unable to afford dental care. Diagnosed with angiosarcoma in July 2015, Dr. Lutz continued his practice until retirement on March 1, 2016, passing away on March 18, 2016.

Dr. Lutz is survived by his wife of 28 years, Patricia, of Fresno, California; his son, William, of Fort Bragg, North Carolina; father, Randall, of Fresno, California; and two daughters, from a previous marriage, Wendi and Janci.

**Harold Mathiesen****Dr. Harold Mathiesen**

Born in Boulder, Colorado, on March 12, 1922, Harold Mathiesen, DDS'58, became the first candidate from Southwestern College (now Southwestern Adventist University) in Keene, Texas, to be accepted at LLUSD. After graduating with LLUSD's class of '58, he would practice in Lompoc, California, before establishing a practice in Fresno.

Participating regularly in local churches, Dr. Mathiesen served as deacon, Pathfinder leader, and Fresno Adventist Academy board member. In Santa Maria, California, he chaired the building committee that oversaw

construction of a new church sanctuary.

In retirement Dr. Mathiesen remained active, until his final (93<sup>rd</sup>) year of life. Skilled at restoring old cars, he retained files recording more than 75 cars that went to such faraway places as Hawaii, Sweden, Belgium, and Australia. Many of the owners corresponded with him.

Mourning his death, which came at his home in Fresno on February 10, 2016, are Dr. Mathiesen's wife of 39 years, Marjean, BS'64; MS'72 (SN), of Fresno, California; his two sons—Curtis of Santa Maria, California and David (wife Linda) also of Santa Maria—and his daughter Janelle (husband Mark) Ward, of Hanford, California; six grandchildren and 15 great grandchildren.

**Llewellyn Mowery****Dr. Llewellyn Mowery**

Llewellyn Mowery, DDS'61, was born in the little town of Rosthern, Saskatchewan, Canada, on May 31, 1932.

After completing pre-dental studies at Walla Walla College (now Walla Wall University), College Place, Washington, and Pacific Union College, Angwin, California, he joined LLUSD's class of '61.

Dental practice took Dr. Mowery to several California sites including Palmdale, San Bernardino, Fontana, and Riverside, before he established an office in Hesperia, California, for his final 20 years of dental practice.

He became a Rotarian and pursued an active interest in his Redlands, California, orchard, meticulously maintaining equipment for its care. An enthusiastic restorer of classic cars, Dr. Mowery's voracious reading interests also prompted him to create a large personal library.

Moving to Loma Linda, California, in retirement (2012), Dr. Mowery died there on March 1, 2016. Mourning his death are Dr. Mowery's wife, Marian, of Loma Linda, California; his son Lew Jr. CPA (wife Shana), controller at Loma Linda University; his daughter Lisa (husband Dan, LLUSD'88) Swenson, LLUSD'87, of Hughson, California; his son Greg, LLUSD'91 (wife Valerie), of Franklin, Tennessee; and seven grandchildren.

## FOND FAREWELLS

**Lorrell Smick***Dr. Lorrell Smick*

Lorrell Smick, DDS'62, was at his winter home in Palm Desert, California, when he died on February 11, 2016. He was born March 22, 1936, in the little town of Endicott, Washington. At Walla Walla College (now Walla Walla University), College Place, Washington, he completed a degree in zoology, starred on a basketball team, and met Shirley Lewis, whom he married in 1955. After the college graduation in 1958, Dr. Smick entered LLUSD's class of '62.

Immediately after dental graduation Dr. Smick moved to Yuba City, California, where he would practice dentistry for 26

years. In Yuba City he became a pillar in the local Adventist Church, serving on the school board and church finance committee chair with wholehearted support. In retirement at Brush Prairie, Washington, 1988-2014, he devoted similar support at the Hockinson church, where he made many good friends while overseeing the premises as well as participating in the worship services.

Recently Dr. Smick moved in 2014 to Walla Walla, Washington, to be near family. Dr. Smick leaves to mourn his wife of 60 years, Shirley, of Walla Walla, Washington; Debbie (husband Phil) Mothersbaugh of College Place, Washington; and Tami Smick, MA (LLU physical therapy), of Portland, Oregon; a son, Jason of Walla Walla, Washington; and two grandchildren.

**Stephen Tracey***Dr. Stephen Tracey*

Born November 10, 1958, in Riverside, California, Stephen Tracey, DDS'83, MS'86, earned his bachelor's, dental, and master's degrees at Loma Linda University. He practiced dentistry in Rancho Cucamonga and then in Upland, California, until his death on April 30, 2016. Combining academics with his practice, Dr. Tracey became Orthodontic Instructor of the Year at Loma Linda University in 1995; he also served as visiting professor of orthodontics at the University of Ferrara in Ferrara, Italy. More than 30 articles in professional publications bear his byline as do co-

authored chapters in widely used orthodontic textbooks.

Traveling internationally, Dr. Tracey lectured in 23 countries on six continents. He has also been instrumental in the development of many current orthodontic appliance systems.

Personally, Dr. Tracey's insatiable curiosity combined with his passion for adventure led him to pursue shark diving in the Bahamas, swim from Alcatraz to San Francisco, trek the jungles of the Amazon, reach the peak of Mt. Rainier, master hang-gliding, and compete in the Ironman Triathlon in Kona, Hawaii.

Surviving Dr. Tracey are his wife, Dar Tracey of Upland, California; the mother of his children, Jill Tracey of Redlands, California; his daughters—Laura Tracey of Redlands and Jennifer (husband Mark) Jackson also of Redlands; and three grandchildren.

**Raymond Sugiyama***Dr. Raymond Sugiyama*

Born (April 23, 1938) and raised in Long Beach, California, Raymond Sugiyama, DDS, MS'68, played football in high school, where he served as student body president. He combined pre-dental studies at California State Long Beach with track and field pursuits. After spending two years as a dental technician in the army, he completed dentistry at Case Western Reserve University, Cleveland, Ohio, graduating with highest honors. Serving two years in public health service preceded his pursuit of an orthodontic specialty at LLUSD.

While practicing in Los Alamitos and Long Beach, Dr. Sugiyama joined LLUSD's orthodontics faculty, where he pursued his teaching passion for 40 plus years. He extended his teaching pursuits at 41 universities throughout Asia, 10 in Mexico, and 17 in South America. Having studied differences in the tooth-to-base relationships of Asian, Black, Hispanic, and Caucasian populations, Dr. Sugiyama developed special ethnic braces for accommodating those differences. An avid fisherman, he also taught fly fishing to colleagues at annual continuing education classes in Alaska.

When he died on May 8, 2016, Dr. Sugiyama left to mourn his wife, Sharon of Long beach, California; his sons—Darren (wife Emilia), of Orange, California; and Brandon of New York City; and one grandson.

**Wendell Williams***Dr. Wendell Williams*

Born on December 30, 1945, in Ogden, Utah, Wendell Alfred Williams, DDS'71, became active in his church at an early age. From then until his death on June 5, 2014, in Walnut Creek, California, he served in a variety of leadership positions as Sabbath School teacher, deacon, and church elder.

Dr. Williams graduated from Weber High School in Ogden, Utah, in 1964, then completed pre-dental studies at Weber State College in Ogden. After graduating at LLUSD in 1971, he practiced general dentistry in the Oakland area from 1973 to 2014.

Exerting considerable energy in his 12-hour days at the dental office, he introduced a host of children to dental care they were unable to pay for. He called this major segment of his practice his "mission field."

Dr. Williams leaves behind his wife of 45 years, Vivian Williams of Lafayette, California; three sons—W. Bryan Williams, LLUSM'97, of Lafayette; Brent Williams (wife Robin), LLUSM '98, of Lafayette; and Nathan Williams (wife, Deia), LLUSM '00, of Beaumont, California. Dr. Williams was adored by his ten grandchildren (Chontelle, Nadia, Amani, Delia, David, Elijah, Micah, Christopher, Naeema, Shanice) and a host of nieces, nephews, and friends from coast to coast.

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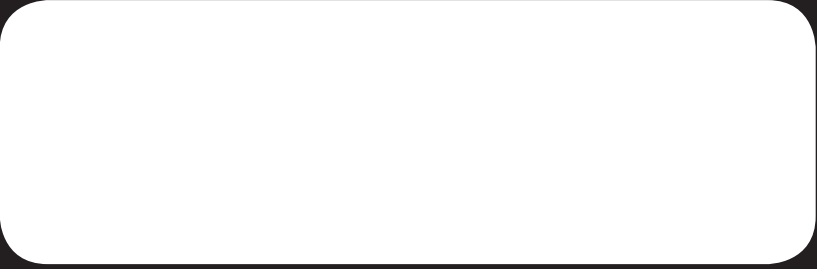




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