

4th Annual LLU Algorithm Workshop

General Information

We (Yair and Reinhard) have been organizing a yearly workshop at Loma Linda University, California, USA centered on topics related to proton or ion imaging and intensity-modulated proton therapy algorithms and optimization. This year's workshop edition will take place August 6-8 (as always, right after the AAPM conference).

The summer workshops at Loma Linda University are organized in an informal setting: there is no workshop fee, not **even** a workshop webpage, a large round table, audiovisual equipment and conferencing tools, etc. Students and faculty alike present their recent work and ideas. This year's edition will repeat this format. The workshop intends to create an as large as possible overlap between different topics that will enable us to work intensively together, exchange information and ideas, and finalize and/or start new projects.

Important Phone Numbers

From your apartment phone, no need to dial +1 and area code (909), all local calls are free

Reinhard phones: +1 (909) 213-2518 (mobile), +1 (909) 825-4503 (home)

Yair apartment phone (in Loma Linda): +1 (909)799-6859

Security Control Center: + 1 (909) 558-4320, call for non-emergent questions (e.g. locked out of apartment, etc.)

Doris Segovia, Rental Office: +1 (909) 558-4374

In case of Emergency: Dial 911 from any phone

How do I find my way?

Loma Linda is a small town and the Medical Center and University are right in the center. The rest is residential area and local hills. You will find a campus map at the end of this document, which will show you all relevant places, such as bank, parking, our meeting place, my office etc. If you need to go shopping, I suggest you either walk to the east.

Where can I park?

There is FREE parking available in the X-lot and in the P3 Patient and Visitor parking structure. Refer to the map for details. If you have a need for parking close to the meeting, please let me know and I can give you a parking pass for the employee lot, but you will need to call me before you arrive, so I can open the gate for you.

How do I get the key to my apartment?

Some of you rented an apartment or condo from the university. They will have received an email about the keys to be picked up at the Security Control Center in the Medical Center. To get there, walk up Campus Street toward Barton Road and turn left into the Emergency Parking area. Walk down to the patient entrance of the ER and find the Security Window inside. Ask the officer for the control center where you need to pick up a pink envelope with your name left their by the University Rental Office. They will escort you there. From there, you can just go up two levels to the main entrance of the Medical Center (also visit the Cafeteria on that Lobby level) and walk in

the direction of Prospect Street and Bank of America most apartments/condos are on Prospect. Some may live on the side of the ER, in that case, you need to go out the same way you came in and walk towards University Avenue (see map).

How do I pay for my apartment?

Those that are renting a university apartment please see Doris in the Real Estate Office (LLU Rental) **24873 Taylor Street** and pay your rent by personal check or cash (**no credit cards!**)

Where do we meet the first time?

For those that are here on Monday (most of you) we will meet at 8:45 AM in front of my office in Mortensen Hall, 2nd floor (one flight of stairs up and to the left). From there, we will walk to the meeting room in Alumni Hall, room 138. For those that will come at another time and at all other times (e.g., after lunch) please go straight to the meeting room.

When can I give me talk(s)

Many of you have indicated they would like to give at least one talk. We allow up to 30 minutes for individual talks followed by a discussion. If you have not told Reinhard yet that you have a presentation ready (most of you have told already) please let him know ASAP. The individual schedule will be prepared fresh every evening and emailed in the morning. Every talk will be given a good discussion by attendees present in person and on Zoom.

Can I see the Proton Treatment Center

Yes, as in previous years, there will be a guided proton center tour, this time on Monday at 5 PM for about 30 minutes, kindly provided by **Chief Clinical Physicist, Dr. Baldev Patyal**. Please make sure you get to dinner in time. Please sign up for the tour by letting Reinhard know on Monday. **The tour group meets in front of Mortensen Hall at 4:50 pm this Monday** and Reinhard will walk you up the hill to the Medical Center.

Will there be refreshments and coffee?

Yes, there will be a coffee dispenser and refreshments served (in the morning and afternoon) every workshop day. Paper cups will be provided as well. There will be a drinking water dispenser near the meeting room (we will show you).

What about lunch?

We will offer a group lunch in the faculty dining area from 12 pm – 1pm every day. Please walk with us because it will be free lunch for the group, while you will need to pay if you come as an individual. The food will be vegetarian only. If you long for meet, go to Café Society on University Avenue in walking distance.

Where can I buy food, water, and other supplies?

You will find the Loma Linda Market behind the bank on Prospect Street. They are open until 7 pm every night. They only sell healthy stuff ☺. If you want unhealthy things (meat, coffee, alcohol, tobacco) you need to take the 19 bus to Stater Brothers a few bus stops either East or West (as the bus driver for the right stop).

What can I do for fun in the evening and if I stay longer?

Loma Linda is a quiet town without much entertainment. We will have a workshop dinner Monday night at Caprice Café in Redlands and a night out at Brew Cakes on State also in Redlands. You can take the 19 bus back and forth, which stops at the indicated stops on the map. On Wednesday night, you will be on your own (if you stay until Thursday or later). If you want to explore the locality, go to the movies, restaurants or bars, it is best to go to Downtown Redlands (Omnibus 19) or Riverside (RTA bus 14). There is also a beach train to Oceanside and a Greyhound to San Diego from Downtown San Bernardino. The nearest National Park is Joshua Tree NP to our East, from where you can see the stars. The Perseids will peak on August 12 during a Moon-less night. Palm Springs is about 40 Miles to the East along the 10 Freeway.

The following agenda only lists the time slots for the different topics covered by this workshop. They will be filled with individual talks delivered by those who want to contribute their talks and have them discussed by all others. This will contribute to stress-free workshop environment.

4th Annual LLU Workshop Topics Agenda- August 6-8, 2018

Time	Monday, August 6	Tuesday, August 7	Wednesday August 8
9:00	pCT and pRad Introductory lectures	Treatment planning optimization Introductory lectures	Facility & company talks
10:00			
11:00			
12:00	Lunch Break	Lunch Break	Lunch Break
13:00			
14:00	pCT and pRad technology & reconstruction talks & Discussion	Treatment planning optimization talks & Discussion	Update on New Research Projects & Discussion
15:00			
16:00			
17:00	Proton Center Tour		Adjourn
18:00			
19:00	Dinner at Caprice Café, Redlands*	Night out	Free
20:00			
21:00			

* <https://goo.gl/maps/AfbCd93NEHL2>

** <https://goo.gl/maps/iKmwoUGqTJ72>

4th Annual LLU Workshop Attendees- August 6-8, 2018

Status of August 1, 2018

(+) will attend in person, (-) will not attend in person, but on Zoom

ORGANIZERS(+) Reinhard Schulte, MD, MS rschulte@llu.edu – Professor Division of Biomedical Engineering at LLU – **in person**(+) Yair Censor, PhD yacens@gmail.com, yair@math.haifa.ac.il – Professor Department of Mathematics, University of Haifa, Israel – **in person**LLUVladimir Bashkirov ybashkirov@llu.edu – **in person**UCL(-) Charles-Antoine Collins Fekete cacfek@gmail.com – **Zoom**CREATIS(-) Simon Rit simon.rit@creatis.insa-lyon.fr – Researcher – **Zoom**(-) Nils Krah nils.krah@creatis.insa-lyon.fr – Postdoc – **Zoom**.UCSF(+) Bruce Faddegon Bruce.Faddegon@ucsf.edu – Professor Department of Med Physics – **in person**(+) Jose Ramos-Mendez Jose.RamosMendez@ucsf.edu – Researcher – **in person**(+) Naoki Dominguez, graduate student in physics from Puebla, Mexico – **in person**NIU(+) George Coutrakon, PhD gcoutrakon@niu.edu – Professor Department of Physics – **in person**(+) Nicholas Karonis, PhD karonis@niu.edu, Professor Department of Computer Science – **in person**(-) Christina Sarosiek, BS csarosiek@gmail.com NIU PhD graduate student of Physics- **Zoom**CSUSB/BAYLOR(+) Ernesto Gomez, PhD ernesto@csusb.edu – Professor Department of Computer Science California State University San Bernardino – **in person**(+) Keith Schubert, PhD Keith_Schubert@baylor.edu Professor, Computer Science Baylor University – **in person**(+) Blake Schultze MS Blake_Schultze@baylor.edu PhD graduate student from Baylor University Computer Science – **in person**(-) Paniz Karbasi, PhD Paniz_Karbasi@baylor.edu recent graduate from Baylor University - **Zoom**.

MGH AND COLLABORATING UNIVERSITIES

(+) Bram Gorissen, PhD b.l.gorissen@tilburguniversity.edu – Researcher optimization theory, Center and Faculty of Economics and Business Administration, Tilburg University, Netherlands

- **in person**

(-) Hsiao-Ming Lu, PhD hmlu@mg.harvard.edu – Associate Professor, Director of Clinical Physics, Department of Radiation Oncology, MGH, Boston.

(-) Zoltan Perko, PhD Z.Perko@tudelft.nl – Researcher Department of Radiation Science & Technology, University of Delft, Netherlands – **Zoom?**

PROTON VDA

(+) Fritz DeJongh, PhD, fritz.dejongh@protonvda.com – Founder ProtonVDA – **in person**

(+) Ethan DeJongh, BS ethan.dejongh@protonvda.com – Employee, Program Developer, ProtonVDA – **in person**

OXFORD UNIVERSITY, UK

(+) Mark Brooke, BS mark.brooke@oncology.ox.ac.uk – PhD graduate student in physics – **in person**

UCLA

(+) howard heaton, BS howard.wayne.heaton@gmail.com – PhD graduate student in mathematics – **in person**

(-) Deanna Needell, PhD deanna@math.ucla.edu – Professor Department of Mathematics – **Zoom on Tuesday**

UCSC

(+) Robert Johnson, PhD, rjohnson@ucsc.edu – Professor Department of Physics – **in person**

UNIVERSITY OF BERGEN, NORWAY

(+) Pierluigi Piersimoni, PhD pierluigi.piersimoni@gmail.com – Researcher Department of Physics and Technology – **in person**

(+) Helge Pettersen, PhD helge.e.s.pettersen@gmail.com – **in person**

(-) Jarle R Sølve, MS jarle.soelie@gmail.com – PhD graduate student in physics – **Zoom**

INSTITUTE OF NUCLEAR PHYSICS, KRAKÓW, POLAND

(+) Antoni Ruciński, PhD antoni.rucinski@ifj.edu.pl – Medical Physics Researcher, Proton Therapy Centre Kraków – **in person**

(-) Magdalena Garbacz, MS magdalena.garbacz@student.uw.edu.pl – PhD, graduate student in physics – **Zoom**

UNIVERSITAETS KRANKENHAUS EPPENDORF (UKE), GERMANY

(+) Elisabetta Gargioni, PhD e.gargioni@uke.de – Researcher Department of Medical Physics **in person**

CHULABHORN ROYAL ACADEMY, BANGKOK, THAILAND

Thiansin Liamsuwan, PhD thiansin.lia@pccms.ac.th – Medical Physics Researcher at HRH Princess Chulabhorn College of Medical Science – **Zoom**

OTHER

- (+) Stuart Rowland, PhD swr.jsnark@gmail.com – , former computer scientist from City University New York (CUNY) – **in person**
- (+) Brien Grant, BS, begrant3631@gmail.com – recent college graduate in Appl. Mathematics from La Sierra University – **in person**
- (+) Jamie Milligan, PhD milliganjamie00@gmail.com - Scientist Radiation Chemistry – **in person** (Wednesday only)
- (+) Andriy Zatserklyaniy, PhD zatserk1@gmail.com – Detector Physicist, formerly UCSC, **in person** (Wednesday only)

Pre-workshop – Friday, August 3rdLMU

- (-) Guillaume Landry, PhD G.Landry@physik.uni-muenchen.de – Researcher Department of Experimental Medical Physics – **Zoom**
- (-) George Dedes, PhD G.Dedes@physik.uni-muenchen.de – Researcher Department of Experimental Medical Physics – **Zoom**
- (-) Jannis Dickmann, MS Jannis.Dickmann@physik.uni-muenchen.de – PhD student Medical Physics, **Zoom**

