



American Society for Quality ([www.asq.org](http://www.asq.org)) – Washington DC and Maryland Metro, Section 509 ([www.asq509.org](http://www.asq509.org))

Biomed/Biotech Special Interest Group (SIG) Meeting  
(<http://www.asq509.org/ht/d/sp/i/31557/pid/31557>)

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**“Particle Beam Therapy  
– A Complementary Radiotherapy of Photons:  
From X-Ray to Proton and Heavier Ions”**

To be presented by

**Jao Jang Su, PhD**

([jjsu@atayalsci.com](mailto:jjsu@atayalsci.com))

Senior Research Scientist, Univ. of Maryland at College Park  
MicroPET, Inc.

**Thursday, April 24, 2014**

6:00 – 6:20 PM – Networking; Pizza/drink

6:20 – 8:45 PM – Program

8:45 – 9:00 PM – Door-prizes drawing; Networking

Online Registration site: <http://www.asq509.org/ht/d/DoSurvey/i/35817>

Open to Public –

**\$5:** non-ASQ members to cover pizza/drink cost;

**Free:** ASQ members, veterans, senior citizens, teachers, students, interns, residents, postdocs, FDA Commissioner’s Fellows, MJ-DC members, NTUAADC members, CAPA members, CCACC volunteers/employees, FAPAC members, CBA members, Commissioned Corp officers, and current job-seekers.

**Location:** Kelly’s Deli Conference Center, 7519 Standish Place, Rockville (Derwood, for GPS users), MD 20855

**Registration Deadline:** Please register by Thursday noon, April 24, 2014.

**Question:** Please contact Dr. C.J. George Chang, Chair of Biomed/Biotech SIG, ASQ509; [gchang2008@yahoo.com](mailto:gchang2008@yahoo.com) or 240-793-8425 (cell).

**Driving directions: By Cars:** From I-270 (N or S bound): Take Exit 9A and exit from the FIRST right exit; turn left (east) onto Shady Grove Dr.; turn right (south) onto Rockville Pike (**Route 355**); turn left (east) onto East Gude Dr.; turn left (north) immediately onto Crabb’s Branch Dr.; turn left (west) immediately onto Standish Place. The first building on your right side is 7519 Standish Place; open parking). The venue is on the first floor with its entrance opposite to the left side of building main entrance. **By Metro trains:** Off from Red Line **Shady Grove Station**, and take RideOn **Route 59 TOWARD ROCKVILLE** and get off from “**Calhoun Place**” stop. Standish Place is next to the Bus stop. Our venue is within 2 min of walking distance from the stop.

## Summary:

Since the first patient was treated by x-ray in 1896, radiotherapy has become a part of the standard of care for cancer treatment. About 60% of cancer patients receive radiation therapy during their treatments in industrialized countries, and several technological developments have allowed physicians to target the x-ray beam more accurately to minimize damaging normal tissue.

Particle therapy was proposed by Dr. Robert Rathburn Wilson in 1946, and the first patient treated by proton was at the University of California, Berkeley by the Ernest and John Lawrence in 1954. The major advantage of proton treatment over conventional radiation is that the majority of proton energies can be deposited in tissue volumes designated by the physicians, and there is no exit dose behind the treated target. This property of proton therapy not only significantly minimizes complications and development of secondary tumors in treated patients, but also allows preserve quality of life for cancer patients both during and after treatment, which is particularly true for pediatric cancers in growing youngsters.

In this session, we will discuss the particle beam therapy in general, the specifics about proton therapy and related economic and technological considerations, and the global trend of particle-beam therapy projects.

## Presenter's Bio: Jao Jang Su, PhD

Jao Jang Su, PhD, jointed University of Maryland, College Park as a **senior research scientist** in 2010. He recently also jointed MicroPET Inc. to develop compact production-on-demand systems for PET Radionuclides & Radiopharmaceuticals.

Dr. Su received his PhD in physics from UCLA, and was a pioneer in the fields of ultra-high gradient acceleration of charged particles in plasmas driven by a laser or a particle beam pulse. He holds a patent for the laser-driven monoenergetic proton beams for therapeutic applications. Dr. Su was appointed by Sumitomo Heavy Industries (SHI) as an **Exclusive Representative** of SHI Quantum Division to conduct proton therapy projects in Taiwan, ROC. He successfully secured SHI's contract for the first proton therapy project in Taiwan in 2008.

Dr. Su served as a **panel committee member** to Plasma and Environmental Center of the Institute of Nuclear Energy Research (INER) during 2001-2007. He currently consults for several proton therapy projects in US, Asia, and Russia.

**This Biomed/Biotech SIG event is cosponsored by the Monte Jade Science and Technology Association of Greater Washington**

[www.MonteJadeDC.org](http://www.MonteJadeDC.org)) and NTU Alumni Association at DC  
([www.ntuaadc.org](http://www.ntuaadc.org)).