

## Adam Cunha

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### J. Adam M. Cunha, Ph.D.



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### Professional Focus

Dr. Cunha received a Ph.D. in experimental particle physics from the University of California, Santa Barbara. His thesis work was done as a member of the BaBar collaboration based at the Stanford Linear Accelerator Center in Palo Alto, CA. He continued his experimental particle physics research with a post-doctoral position at the Brookhaven National Laboratory in New York working on code development for the ATLAS detector.

New in the Medical Physics field and excited about the opportunity of working at UCSF, Dr. Cunha is confident that his experience in hardware and software development will quickly be beneficial to the group. His main research will be focused on additional developments with Inverse Planning Techniques related to HDR (High Dose Rate Brachytherapy).

## Education

2001	Rutgers University, New Brunswick, NJ	BS	Physics
2006	University of California, Santa Barbara, CA	PhD	Physics
2007	Brookhaven National Laboratory, Upton, NY	Post- Doctoral	Physics
2009	University of California, San Francisco, CA	Post- Doctoral	Radiation Oncology

## Professional Experience

2009-2011	UCSF	Clinical Instructor	Department of Radiation Oncology
2011-present	UCSF	Assistant Professor	Department of Radiation Oncology

## Recent Significant Publications :

Nattagh K, Siau T, Pouliot J, Hsu IC, Cunha JA., **A training phantom for ultrasound-guided needle insertion and suturing.** Brachytherapy. 2014 Jul-Aug;13(4):413-9. doi: 10.1016/j.brachy.2014.01.003. Epub 2014 Feb 12.

Crehange G, Krishnamurthy D, Cunha JA, Pickett B, Kurhanewicz J, Hsu IC, Gottschalk AR, Shinohara K, Roach M 3rd, Pouliot J., **Cold spot mapping inferred from MRI at time of failure predicts biopsy-proven local failure after permanent seed brachytherapy in prostate cancer patients: implications for focal salvage brachytherapy.** Radiother Oncol. 2013 Nov;109(2):246-50. doi: 10.1016/j.radonc.2013.10.028. Epub 2013 Nov 11.

Pinnaduwa DS, Cunha JA, Weinberg V, Krishnamurthy D, Nash M, Hsu IC, Pouliot J., **A dosimetric evaluation of using a single treatment plan for multiple treatment fractions within a given applicator insertion in gynecologic brachytherapy.** Brachytherapy. 2013 Sep-Oct;12(5):487-94. doi: 10.1016/j.brachy.2013.02.003. Epub 2013 Apr 11.

Cunha JA, Pouliot J, Weinberg V, Wang-Chesebro A, Roach M 3rd, Hsu IC., **Urethra low-dose tunnels: Validation of and class solution for generating urethra-sparing dose plans using inverse planning simulated annealing for prostate high-dose-rate brachytherapy.** Brachytherapy. 2012 Sep-Oct;11(5):348-53.

Reed G, Cunha JA, Noworolski S, Kurhanewicz J, Vigneron D, Hsu IC, Pouliot J., **Interactive, multi-modality image registrations for combined MRI/MRSI-planned HDR prostate brachytherapy.** J Contemp Brachytherapy. 2011 Mar 31;3(1):26-31.

Siau T, Cunha A, Atamtürk A, Hsu IC, Pouliot J, Goldberg K., **IPIP: A new approach to inverse planning for HDR brachytherapy by directly optimizing dosimetric indices.** Med Phys. 2011 Jul;38(7):4045-51.

Krishnamurthy D, Weinberg V, Cunha JA, Hsu IC, Pouliot J., **Comparison of high-dose rate prostate brachytherapy dose distributions with iridium-192, ytterbium-169, and thulium-170 sources.** Brachytherapy. 2011 Nov;10(6):461-5.

Cunha JA, Pickett B, Pouliot J., **Inverse planning optimization for hybrid prostate permanent-seed implant brachytherapy plans using two source strengths.** J Appl Clin Med Phys. 2010 Jun 3;11(3):3096.

Cunha JA, Hsu IC, Pouliot J, Roach lii M, Shinohara K, Kurhanewicz J, Reed G, Stoianovici D., **Toward adaptive stereotactic robotic brachytherapy for prostate cancer: demonstration of an adaptive workflow incorporating inverse planning and an MR stealth robot.** Minim Invasive Ther Allied Technol. 2010 Aug;19(4):189-202.

Foster W, Cunha JA, Hsu IC, Weinberg V, Krishnamurthy D, Pouliot J., **Dosimetric impact of interfraction catheter movement in high-dose rate prostate brachytherapy.** Int J Radiat Oncol Biol Phys. 2011 May 1;80(1):85-90. Epub 2010 Jun 3.

Cunha JA, Hsu IC, Pouliot J. **Dosimetric equivalence of nonstandard HDR brachytherapy catheter patterns,** Med Phys. 2009 Jan;36(1):233-9.

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