

JUN TAN

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SUMMARY:

Background: Ph.D. in Computer Science and Engineering. Therapeutic Medical Physics resident; passed ABR exam part 1 in 2019.

Interests: Translating research into clinical practice in radiation therapy aiming at clinic work efficiency improvement and ensuring patient safety.

EDUCATION:

- 2006, PhD in Computer Science and Engineering, Oakland University, MI, USA
- 2001, MS in Computer Science, Nanjing University, China
- 1996, BS in Computer Science, Nanjing University of Science and Technology, China

EXPERIENCE AND PROJECTS:

07/01/2020 – present, Assistant Professor

Department of Radiation Oncology, UT Southwestern Medical Center, Dallas, TX

- Medical Physicist
- Clinical Application Development
- Machine QA

07/01/2018 – 06/30/2020, Medical Physics Resident

Department of Radiation Oncology, UT Southwestern Medical Center, Dallas, TX

- Full-time Therapeutic Medical Physics resident training
 - **Linac QA:** Varian 21X, VitalBeam, and TrueBeam; Elekta Agility and Versa
 - **CT simulator QA:** Philips large bore CT; Brainlab mobile intraoperative CT-Airo
 - Special topics include **Gamma Knife**, **SBRT** (to be trained in October 2019), **CyberKnife** (to be trained in December 2019), and **Brachytherapy** (to be trained in January to March 2020)
 - Routine clinic duties include
 - (1) **Chart Check:** physics weekly, physics final, dosimetric
 - (2) **VMAT-TBI:** simulation, planning, dry run, and treatment
 - (3) **IMRT QA:** Linac (Varian and Elekta), CyberKnife
 - (4) **3D soft bolus:** generate 3D printing file and print molding shell, molding
 - (5) **Electron cutout:** cutout factor measurement, documenting in database
 - (6) **OSLD:** placement (with therapists' help) and reading
 - (7) **TSE:** simulation, planning, and treatment
 - (8) **Xstrahl:** simulation, planning
- Clinic projects:
 - **VMAT-TBI:** A semi-automated planning software platform for VMAT-based TBI. It has two components.
 - (1) The first component, plan preparation, uses a python program to concatenate two CT image sequences acquired with HFS and FFS as to generate a single CT image sequence and several DICOM RT plan files that can be imported into Eclipse for treatment planning.

- (2) The second component, plan optimization using Eclipse Scripting API, performs semi-automatic plan optimization for a multi-isocenter VMAT plan treating upper body, and generates 1-3 field-in-field plans treating legs using AP/PA beams.
- **TPS (Eclipse) commissioning for Acuros XB algorithm:** Performed dose calculation on 4 previously treated patients with different plan types (HN, Spine SBRT, brain, lung SBRT) using Acuros XB algorithm for Eclipse TPS, comparing Acuros with AAA (project was put on-hold before further evaluation and approval for clinic use)
- **Gravity:** A web app that helps physics residents:
 - (1) track and check the status of 8 major types of routine clinic duties
 - (2) view machine schedule and treatment status in real-time, or by date or machine
 - (3) check IMRT QA status and results
 - (4) perform final physics check
 - (5) perform secondary dosimetric check
- Continue to serve as a **consultant** for the clinic apps developed before my residency started regarding maintenance, upgrading, bug fixing, and expansion

03/2014 – 06/2018, Instructor

Department of Radiation Oncology, UT Southwestern Medical Center, Dallas, TX

- Physics related clinic apps:
 - **CACCI-Weekly:** Computer-Assisted Weekly Chart Check and Inspection
 - **CACCI-Dosi:** Initial dosimetric plan check
 - **AutoBrachy:** HDR brachytherapy plan QA web apps for “Tandem and Ovoids” and “Secondary Dose Check”
 - **ECF:** Electron cutout digitization and online database for cutout factors
 - **BolusVision:** 3D soft bolus generation and mold printing
 - **LexiPlan:** Low energy x-ray irradiation planning for Xstrahl 150
- Clinical workflow efficiency improvement apps:
 - **RT-History:** Radiation Therapy history check
 - **RO-Pad:** Exam room status tracking, patient and staff check-in/out, using tablet mounted outside of each exam room
 - **Exam Room Bulletin Board:** Real-time exam room status tracking in work room
 - **Machine Status:** Linac machine status tracking, including up/down and schedule delay
 - **Clinical Schedule:** schedule management for physicians, physicists, dosimetrists, on-calls, residents, engineers, etc.
 - **RO-Notif:** Patient appointment reminder using text messaging to help improve compliance
 - **Chart round:** attendee check-in and PQI report generation, patient list, treatment break status tracking
 - **Other notification apps** using text messaging for on-call schedule, next-day clinical duty reminder to individual physician and physics

07/2011 – 03/2014, Research Scientist

Department of Radiation Oncology, Washington University in St. Louis, St. Louis, MO

- Cone-beam CT reconstruction, exact helical CBCT reconstruction and FDK reconstruction with various x-ray source trajectories
- Radiation therapy treatment plan quality control analysis, predictive DVH, structure contour-based plan check
- Medical image processing, segmentation and registration
- Radiation treatment machine QA, including monthly external beam and ODI, quarterly OBI, annual QA and TG-51
- Organize the monthly Physics Journal Club of our department

08/2008 – 07/2011, Postdoctoral Research Associate

Imaging Research Division, Department of Radiology, University of Pittsburgh, Pittsburgh, PA

- Lung image processing, such as lung and airway tree segmentation, and lung image registration
- Lung parenchyma and airway disease analysis, such as pulmonary emphysema analysis using methods including texture-based algorithms
- Investigate the association between lung functions and lung CT image features
- Process and evaluate lung CT images from multiple institutions

05/2006 – 07/2008, Stereotactic Systems Engineer

Detroit Medical Center/School of Medicine, Wayne State University, Detroit, MI

- Design brain shift simulation algorithms such as linear approximation, surface matching, optical flow, and finite element models, taking into account shift factors including not only gravity, but also blood vessel pressure and blood chemical composition change
- Implement multi-modality registration techniques including Viola-Wells Mutual Information etc.
- Provide support and consulting service for neurosurgeons and clinical staff, in Department of Neurosurgery and Department of Radiology, Harper Hospital of Detroit Medical Center

01/2003 – 04/2006, Research Assistant

Department of Neurosurgery, Wayne State University, Detroit, MI

- Investigate medical image processing techniques, including visualization, segmentation, registration, and navigation, on brain images of modality CT, MRI, fMRI, PD, PET, etc.
- Lead software & research engineer in designing an image-guided neurosurgery software CASMIL/CASE
- Design and implement automatic fiducial detection using a template-based algorithm
- Implement rigid and non-rigid registration algorithms for brain image alignment
- Design high-performance visualization technique for large-scale brain volume data and brain atlas
- Develop and maintain medical information database and knowledge-based query tools for CASMIL
- Collaborate with physicians and clinical engineers to develop intelligent planning includes optimal trajectory searching

09/2001 – 04/2006, Research Assistant

Department of Computer Science and Engineering, Oakland University, Rochester, MI

- Investigate statistical and syntactical models used in pattern classification and recognition, data mining and knowledge discovery
- Develop pattern classification framework SHMM (Structural Hidden Markov Models) incorporating topological with statistical information
- Apply SHMM in research fields including character recognition, protein fold classification, and automotive design
- Develop the “agent of dominant color detection” for Accenture Technology labs in a visual computing project

04/1998 – 07/2001, Research Assistant

Department of Computer Science and Technology, Nanjing University, Nanjing, China

- Research on computer graphics, and pattern recognition using context-free grammars
- Develop commercial construction structure drawing analysis and design software for Hong Kong Yau Lee Construction Company

SKILLS:

- Eclipse Scripting API
- Programming Languages: C/C++, MATLAB, C#, VB, Pascal, Prolog, 8086/8088 Assembly, ASP (.NET), HTML, JavaScript/JQuery, XHTML, VBScript, Python, Django
- GPU programming: CUDA, OpenCL
- Database: SQL, Microsoft Access, FoxPro
- Image Processing and Graphics: ITK, VTK, OpenGL, OpenDWG
- Platforms: Windows, Linux
- Developer tools: Visual Studio, QT, Flex/Bison
- Other tools and software: Latex, Microsoft Office, VIDA

PUBLICATIONS:

Peer-Reviewed Journal Papers:

1. **Jun Tan**, Alana Christie, Steven K. Montalvo, Catherine Wallace, Yulong Yan, Michael Folkerts, Alicia Yingling, David Sher, Hak Choy, Steve Jiang, Kenneth D. Westover, "Automated Text Message Reminders Improve Radiation Therapy Compliance," International Journal of Radiation of radiation Oncology • Biology • Physics, Vol. 103, No. 5, pp. 1045e1052, 2019. DOI: <https://doi.org/10.1016/j.ijrobp.2018.11.050>
2. David H. Thomas, **Jun Tan**, Jack Neylon, Tai Dou, Dylan O'Connell, Michael McNitt-Gray, Percy Lee, James Lamb, Daniel A Low, "Investigating the minimum scan parameters required to generate free breathing motion artefact-free fast-helical CT," The British Journal of Radiology, 2018 91:1082. DOI: <https://doi.org/10.1259/bjr.20170597>
3. Tsuicheng Chiu, **Jun Tan**, Mathew Brenner, Xuejun Gu, Ming Yang, Kenneth Westover, Tobin Strom, David Sher, Steve Jiang, Bo Zhao, "Three-Dimensional Printer-Aided Casting of Soft, Custom Silicone Boluses(Scsbs) for Head and Neck Radiotherapy," Practical Radiation Oncology (2017), DOI: <https://doi.org/10.1016/j.prr.2017.11.001>
4. Yuhong Zhou, Peter Klages, **Jun Tan**, Yujie Chi, Strahinja Stojadinovic, Ming Yang, Brian Hrycushko, Paul Medin, Arnold Pompos, Steve Jiang, Kevin Albuquerque, Xun Jia, "Automated high-dose rate brachytherapy treatment planning for a single-channel vaginal cylinder applicator," 2017 Phys. Med. Biol. 62 4361. DOI: <https://doi.org/10.1088/1361-6560/aa637e>
5. Qiaofeng Xu, Deshan Yang, **Jun Tan**, Alex Sawatzky, Mark A. Anastasio. "Accelerated fast iterative shrinkage thresholding algorithms for sparsity-regularized cone-beam CT image reconstruction," Med Phys. 2016 Apr;43(4):1849. DOI: <https://doi.org/10.1118/1.4942812>
6. Kevin L. Moore, Rachel Schmidt, Vitali Moiseenko, Lindsey A. Olsen, **Jun Tan**, Ying Xiao, James Galvin, Stephanie Pugh, Michael J. Seider, Adam P. Dicker, Walter Bosch, Jeff Michalski, Sasa Mutic, "Quantifying Unnecessary Normal Tissue Complication Risks due to Suboptimal Planning: A Secondary Study of RTOG 0126," International Journal of Radiation of radiation Oncology • Biology • Physics, 2015, June 1;92(2):228-235. DOI: <https://doi.org/10.1016/j.ijrobp.2015.01.046>
7. Zhen Tian, Fei Peng, Michael Folkerts, **Jun Tan**, Xun Jia, Steve Jiang, "Multi-GPU implementation of a VMAT treatment plan optimization algorithm," Medical Physics, In Press (2015). DOI: <https://doi.org/10.1118/1.4919742>
8. Satomi Shiraishi, **Jun Tan**, Lindsey A. Olsen, Kevin L. Moore, "Knowledge-based prediction of plan quality metrics in intracranial stereotactic radiosurgery," Medical Physics 42, 908 (2015). DOI: <https://doi.org/10.1118/1.4906183>
9. Hsin-Chen Chen, **Jun Tan**, Steven Dolly, James Kavanaugh, Mark A. Anastasio, Daniel A. Low, H. Harold Li, Michael Altman, Hiram Gay, Wade L. Thorstad, Sasa Mutic, Hua Li, "Automated contouring error detection based on supervised geometric attribute distribution

- models for radiation therapy: A general strategy," *Medical Physics* 42, 1048 (2015). DOI: <https://doi.org/10.1118/1.4906197>
10. Deshan Yang, H Harold Li, Murty Goddu, **Jun Tan**, "CBCT volumetric coverage extension using a pair of complementary circular scans with opposite kV detector lateral and longitudinal offsets," *Phys. Med. Biol.* 59 (2014) 6327–6339. DOI: <http://dx.doi.org/10.1088/0031-9155/59/21/6327>
 11. Hua Li, Lifeng Yu, Mark A. Anastasio, Hsin-Chen Chen, **Jun Tan**, Hiram Gay, Jeff M. Michalski, Danial A. Low, Sasa Mutic, "Automatic CT simulation optimization for radiation therapy: A general strategy," *Medical Physics* 2014; 41:031913. DOI: <https://doi.org/10.1118/1.4866377>
 12. **Jun Tan**, H. Harold Li, Eric Klein, Hua Li, Parag Parikh, Deshan Yang, "Physical phantom studies of helical cone-beam CT with exact reconstruction," *Medical Physics* 2012; 39:4695-4704. DOI: <https://doi.org/10.1118/1.4736535>
 13. Suicheng Gu, David Wilson, **Jun Tan**, Jiantao Pu, "Pulmonary Nodule Registration: Rigid or Non-Rigid?," *Medical Physics* 2011; 38(7): 4406-4415. DOI: <https://doi.org/10.1118/1.3602457>
 14. Xingwei Wang, Dror Lederman, **Jun Tan**, Xiao Hui Wang, Bin Zheng, "Computerized prediction of risk for developing breast cancer based on bilateral mammographic breast tissue asymmetry," *Medical Engineering & Physics* 2011; 33(8):934-942. DOI: <https://doi.org/10.1016/j.medengphy.2011.03.001>
 15. **Jun Tan**, Jiantao Pu, Bin Zheng, Xingwei Wang, Joseph K. Leader, "Comprehensive Data Analysis of Lung Imaging Database Consortium (LIDC)," *Medical Physics* 2010; 37:3802-3808. DOI: <https://doi.org/10.1118/1.3455701>
 16. Sang Cheol Park, **Jun Tan**, Xingwei Wang, Dror Lederman, Joseph K. Leader, Soo Hyung Kim, Bin Zheng, "Computer-aided detection of early interstitial lung diseases using low-dose CT images," *Physics in Medicine and Biology*, 2011; 56:1139-1153. DOI: <http://dx.doi.org/10.1088/0031-9155/56/4/016>
 17. Sang Cheol Park, Joseph Ken Leader, **Jun Tan**, Guee Sang Lee, Soo Hyung Kim, In Seop Na, Bin Zheng, "Separation of left and right lungs using 3D information of sequential CT images and a guided dynamic programming algorithm," *Journal of Computer Assisted Tomography* 2011; 35(2):280-289. DOI: [10.1097/RCT.0b013e31820e4389](https://doi.org/10.1097/RCT.0b013e31820e4389)
 18. Xingwei Wang, Dror Lederman, **Jun Tan**, Xiao Hui Wang, Bin Zheng, "Computerized detection of breast tissue asymmetry depicted on bilateral mammograms: a preliminary study of breast risk stratification," *Academic Radiology* 2010; 17: 1234-1241. DOI: [10.1016/j.acra.2010.05.016](https://doi.org/10.1016/j.acra.2010.05.016)
 19. Bin Zheng, Xingwei Wang, Dror Lederman, **Jun Tan**, David Gur, "Computer-aided detection: the effect of training databases on detection of subtle breast masses," *Academic Radiology* 2010; 17:1401-1408. DOI: <https://doi.org/10.1016/j.acra.2010.06.009>
 20. Xingwei Wang, Dror Lederman, **Jun Tan**, Bin Zheng, "Computer-aided detection: The impact of machine learning classifier and image feature selection on scheme performance," *International Journal of Intelligent Information Processing* 2010; 1:30-40. DOI: [10.1016/j.acra.2010.06.009](https://doi.org/10.1016/j.acra.2010.06.009)
 21. Bin Zheng, **Jun Tan**, Marie A. Ganott, Denise M. Chough, David Gur, "Matching breast masses depicted on different views: a comparison of three methods," *Academic Radiology* 2009; 16: 1338-1347. DOI: <https://doi.org/10.1016/j.acra.2009.05.005>
 22. Djamel Bouchaffra, **Jun Tan**, "Structural hidden Markov models based on stochastic context-free grammars," in *Control and Intelligent Systems*, Vol. 35, No. 3, 2007, ACTA Press. DOI: [10.2316/Journal.201.2007.3.201-1665](https://doi.org/10.2316/Journal.201.2007.3.201-1665)
 23. Gulsheen Kaur, **Jun Tan**, Mohammed Alam, Vipin Chaudhary, and et al, "CASMIL: A comprehensive software/toolkit for Image-guided Neurosurgeries," *Neurosurgery edition of IJMRCAS (International Journal of Medical Robotics + Computer Assisted Surgery)* 2006. DOI: <https://doi.org/10.1002/rcs.87>

24. Djamel Bouchaffra, **Jun Tan**, "Structural Hidden Markov Models using a Relation of Equivalence: Application to Automotive Designs," *Data Mining and Knowledge Discovery*, Volume 12: 1, Springer-V, 2006. DOI: <https://doi.org/10.1007/s10618-005-0020-8>
25. Djamel Bouchaffra, **Jun Tan**, "Structural hidden Markov models: An application to handwritten numeral recognition," *Intelligent Data Analysis Journal*, Vol. 10:1, IOS Press, 2006. DOI: [10.3233/IDA-2006-10105](https://doi.org/10.3233/IDA-2006-10105)
26. **Jun Tan**, Shijie Cai, "The design and implementation of a drawing version management tool – VHCompare," *Computer Engineering (Chinese)*, 10/2001
27. Ruoyu Yang, **Jun Tan**, "Concrete Reinforcement Quantity Survey System Based on Graphics Understanding," *Journal of Computer–Aided Design & Computer Graphics (EI, Chinese)*, 9/2000

Conference abstracts/papers:

1. **Jun Tan**, David Parsons, Pam Lee, Xuejun Gu, "Auto-VMAT-TBI: An Automatic Treatment Planning Software Platform for Volumetric Modulated Arc Therapy-Enabled Total Body Irradiation," 61st AAPM Annual Meeting, 2019, San Antonio, TX
2. Zhen Tian, **Jun Tan**, Yesenia Gonzalez, Kevin Albuquerque, Xun Jia, "A Geometry-Based Pre-Planning System for Interstitial HDR Brachytherapy," AAPM Annual Meeting, 2019, San Antonio, TX
3. Bo Zhao, **Jun Tan**, Ming Yang, Robert Reynolds, Xuejun Gu, "Is 6 Degree of Freedom (DOF) Couch Useful for HN Radiation?" 61st AAPM Annual Meeting, 2019, San Antonio, TX
4. **Jun Tan**, Michael R. Folkert, Zipalkumar Trivedi, Arnold Pompos, Zabi Wardak, Steve Jiang, Yulong Yan, "A Web-Based Application That Makes Radiation Therapy Plans and Treatment Details Readily Accessible to Multidisciplinary Care Teams," *International Journal of Radiation Oncology • Biology • Physics*, Volume 102, Issue 3, e361, 2018 ASTRO Annual Meeting, San Antonio, TX, DOI: <https://doi.org/10.1016/j.ijrobp.2018.07.1087>
5. **Jun Tan**, Tsuicheng Chiu, Yulong Yan, Mu-Han Lin, Pam Lee, Steve Jiang, Xuejun Gu, "Developing an Automatic Planning System for Total Body Irradiation (TBI) Treatment Using Volumetric Modulated Arc Therapy (VMAT)," 60th AAPM Annual Meeting, 2018, Nashville, TN
6. **Jun Tan**, Peter Klages, Chenyang Shen, Ming Yang, Kevin Albuquerque, Xun Jia, "AutoBrachy: A Streamlined Automated Treatment Planning, Quality Assurance, and Documentation System for Tandem-And-Ovoid High Dose-Rate Brachytherapy," 60th AAPM Annual Meeting, 2018, Nashville, TN
7. **Jun Tan**, Strahinja Stojadinovic, Sarah McGuire, Amir Owrangi, Steve Jiang, Yulong Yan, "A Web-Based Treatment Planning System for Low-Energy X-Ray Units," 60th AAPM Annual Meeting, 2018, Nashville, TN
8. Mu-Han Lin, **Jun Tan**, Arnold Pompos, Steve Jiang, Kevin Albuquerque, "Effectiveness of Procedure and Software Assisted Chart Preparation for Process Improvements After Transition to a New Treatment Planning System," 60th AAPM Annual Meeting, 2018, Nashville, TN
9. Lin Ma, Dan Nguyen, Yulong Yan, Arnold Pompos, **Jun Tan**, Weiguo Lu, Raquibul Hannan, Steve Jiang, "Detecting Errors in Radiotherapy Treatment Plans Using Deep Learning," 60th AAPM Annual Meeting, 2018, Nashville, TN
10. **Jun Tan**, Tsuicheng Chiu, Bo Zhao, Troy Long, Weiguo Lu, Tobin Strom, Kenneth Westover, Steve Jiang, Xuejun Gu, "BolusVision: Software for 3D Printer-Enabled Soft Bolus Design and Fabrication," 59th AAPM Annual Meeting, 2017, Denver, CO
11. Tsuicheng Chiu, **Jun Tan**, Troy Long, Bo Zhao, Kenneth Westover, Tobin Strom, Steve Jiang, Weiguo Lu, Xuejun Gu, "Patient Specific Soft Compensators Design and Fabrication for Electron Modulated Radiotherapy," 59th AAPM Annual Meeting, 2017, Denver, CO

12. Peter Klages, Chenyang Shen, **Jun Tan**, Kevin Albuquerque, Xun Jia, "Automated HDR Brachytherapy Treatment Planning and Quality Assurance System for Tandem-And-Ovoid Applicator," 59th AAPM Annual Meeting, 2017, Denver, CO
13. Peter Klages, Yuhong Zhou, **Jun Tan**, Kevin Albuquerque, Xun Jia, "Evaluation of a Fully Automated Treatment Planning and Quality Assurance System for HDR Brachytherapy with a Cylinder Applicator," 59th AAPM Annual Meeting, 2017, Denver, CO
14. Mingli Chen, Xuejun Gu, Tsuicheng Chiu, Troy Long, **Jun Tan**, Weiguo Lu, "Isodose-Driven Optimization for Automatic/Interactive Electron Bolus Design," 59th AAPM Annual Meeting, 2017, Denver, CO
15. **Jun Tan**, Arnold Pompos, Steve Jiang, Yulong Yan, "A New Paradigm of Weekly Chart Checking for Radiation Therapy Clinics," 58th AAPM Annual Meeting, 2016, Washington, DC. DOI: <https://doi.org/10.1118/1.4956232>
16. Yuhong Zhou, **Jun Tan**, Steve Jiang, Kevin Albuquerque, Xun Jia, "Automatic Treatment Planning for High-Dose Rate (HDR) Brachytherapy with a Vaginal Cylinder Applicator," 58th AAPM Annual Meeting, 2016, Washington, DC. DOI: <https://doi.org/10.1118/1.4956200>
17. Zhen Tian, Feng Shi, Xuejun Gu, Y. Graves, **Jun Tan**, Nima Hassan-Rezaeian, Steve Jiang, Xun Jia, "Real-Time Monte Carlo-based Treatment Dose Reconstruction and Monitoring for Radiotherapy," 58th AAPM Annual Meeting, 2016, Washington, DC. DOI: <https://doi.org/10.1118/1.4957311>
18. **Jun Tan**, Feng Shi, Brian Hrycushko, Paul Medin, Strahinja Stojadinovic, Arnold Pompos, Ming Yang, Kevin Albuquerque, Xun Jia, "An Automated Treatment Plan Quality Assurance Program for Tandem and Ovoid High Dose-Rate Brachytherapy," 57th AAPM Annual Meeting, 2015, Anaheim, CA. DOI: <https://doi.org/10.1118/1.4925540>
19. **Jun Tan**, Yulong Yan, Frederick Hager, Xuejun Gu, Xun Jia, Arnold Pompos, Ryan Foster, Strahinja Stojadinovic, Ming Yang, Brian Hrycushko, Michael Folkerts, Bo Zhao, Paul Medin, Chuxiong Ding, Steve Jiang, "Auto Weekly - An Automated Online Weekly Chart Check System for Medical Physics," 57th AAPM Annual Meeting, 2015, Anaheim, CA. DOI: <https://doi.org/10.1118/1.4923868>
20. Weiguo Lu, Mingli Chen, **Jun Tan**, Steve Jiang, "Incorporating In-House Treatment Planning Software Into Clinical Auto-Planning Workflow," 57th AAPM Annual Meeting, 2015, Anaheim, CA. DOI: <https://doi.org/10.1118/1.4924850>
21. Steven Dolly, Bin Cai, Hsin-Chen Chen, Mark Anastasio, **Jun Tan**, Baozhou Sun, Sridhar Yaddanapudi, Camille Noel, SreeKrishna Murty Goddu, Sasa Mutic, Hua Li, "A Compact Modular Computational Platform for Automated On-Board Imager Quality Assurance," 57th AAPM Annual Meeting, 2015, Anaheim, CA. DOI: <https://doi.org/10.1118/1.4923792>
22. **Jun Tan**, Hua Li, H. Harold Li, Mark A. Anastasio, Deshan Yang, "Improve Scatter Correction in CBCT Reconstruction to Improve the Image Quality for Large Patients," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4887927>
23. David Thomas, **Jun Tan**, Neylon J, Dou T, Jani S, Lamb J, Danial A. Low, "Investigating the Minimum Scan Parameters Required to Generate Free-Breathing Fast-Helical CT Scans Without Motion-Artifacts," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4889635>
24. Hsin-Chen Chen, **Jun Tan**, James Kavanaugh, Steven Dolly, Hiram Gay, Thorstad W, Mark A. Anastasio, Michael Altman, Sasa Mutic, Hua Li, "An Integrated Contour Evaluation Software Tool Using Supervised Pattern Recognition for Radiotherapy," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4889278>
25. Hsin-Chen Chen, James Kavanaugh, **Jun Tan**, Steven Dolly, Hiram Gay, Thorstad W, Mark A. Anastasio, Michael Altman, Sasa Mutic, Hua Li, "**BEST IN PHYSICS (THERAPY)** - A Supervised Framework for Automatic Contour Assessment for Radiotherapy Planning of Head-Neck Cancer," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4889279>

26. Xiaoling Li, **Jun Tan**, Deshan Yang, "A Method to Remove the Streaking Artifacts Caused by Calypso Couch Table Add-On in the MV Portal Images," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4888276>
27. Satomi Shiraishi, **Jun Tan**, Lindsey A. Olsen, Kevin L. Moore, "Knowledge-Based Quality Control of Clinical Stereotactic Radiosurgery Treatment Plans," 56th AAPM Annual Meeting, 2014, Austin, TX. DOI: <https://doi.org/10.1118/1.4889578>
28. Kevin L. Moore, Lindsey Appenzoller, **Jun Tan**, Michalski JM, Thorstad WL, Sasa Mutic, "Clinical implementation of dose-volume histogram predictions for organs-at-risk in IMRT planning," Journal of Physics: Conference Series 489 (2014) 012055. doi:[10.1088/1742-6596/489/1/012055](https://doi.org/10.1088/1742-6596/489/1/012055)
29. Lindsey Appenzoller, **Jun Tan**, Deshan Yang, Grigsby PW, Schwarz JK, Sasa Mutic, Kevin L. Moore, "Efficient Method to Train pDVH Models with Plan Quality Variation Present in the Training Cohort," ASTRO 2013. DOI: <https://doi.org/10.1016/j.ijrobp.2013.06.1648>
30. Deshan Yang, **Jun Tan**, Lindsey Appenzoller, Hua Li, Baozhou Sun, Sasa Mutic, "A Computer Software Tool for Comprehensive Plan Quality Evaluation," ASTRO 2013, DOI: <https://doi.org/10.1016/j.ijrobp.2013.06.1640>
31. **Jun Tan**, H. Harold Li, Murty Goddu, Deshan Yang, "**BEST IN PHYSICS (IMAGING)** Extend the CBCT Volumetric Coverage Using a Pair of Circular Scans with Complementary and Opposite Detector Lateral and Longitudinal Shifts," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4815671>
32. **Jun Tan**, Lindsey Appenzoller, Deshan Yang, Sasa Mutic, Kevin L. Moore, "A Universal Predictive DVH Modeling Toolkit," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4815733>
33. Lindsey Appenzoller, Jessica Klaers, **Jun Tan**, Deshan Yang, Sasa Mutic, Kevin L. Moore, "**BEST IN PHYSICS (THERAPY)** Predictive DVH Models Developed at a Large Institution Impact Clinically Relevant DVH Parameters in IMRT Plans at an Unrelated Radiotherapy Facility," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4815204>
34. Deshan Yang, Wang X, Duan Y, **Jun Tan**, Sasa Mutic, "3D Soft Tissue Boundary Detection for Automatic Verification of Deformable Image Registration," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4814288>
35. Deshan Yang, **Jun Tan**, Li H, Lindsey Appenzoller, Mutic S, "Development of a Computer Software Program to Perform Comprehensive Plan Quality Evaluation," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4815627>
36. **Jun Tan**, H. Harold Li, Parikh P, Izaguirre E, Hua Li, Deshan Yang, "Implementation and Evaluation of Helical On-Board CBCT and Exact Image Reconstruction", 54th AAPM Annual Meeting, 2012, Charlotte, NC. DOI: <https://doi.org/10.1118/1.4736215>
37. Qiaofeng Xu, Deshan Yang, **Jun Tan**, Mark A. Anastasio, "Total Variation (TV) Based Fast Convergent Iterative CBCT Reconstruction with GPU Acceleration", 54th AAPM Annual Meeting, 2012, Charlotte, NC. DOI: <https://doi.org/10.1118/1.4735747>
38. Deshan Yang, Hua Li, Baozhou Sun, **Jun Tan**, Sasa Mutic, "Direct 3D Fluence Calculation from Machine Beam Parameters for VMAT Delivery Verification," 54th AAPM Annual Meeting, 2012, Charlotte, NC. DOI: <https://doi.org/10.1118/1.4736149>
39. **Jun Tan**, Bin Zheng, Xingwei Wang, Jiantao Pu, Frank C. Sciurba, David Gur, Joseph K. Leader, "Classification of CT examinations for COPD visual severity analysis," SPIE Medical Imaging, 2012, San Diego, CA. DOI: <https://doi.org/10.1117/12.911751>
40. Deshan Yang, **Jun Tan**, Hua Li, Goddu S, H. Harold Li, "Onboard cone beam CT with flexible image trajectories to improve image quality and longitudinal coverage: simulation and phantom study," SPIE Medical Imaging, 2012, San Diego, CA. DOI: <https://doi.org/10.1117/12.910851>
41. Deshan Yang, **Jun Tan**, "CBCT with flexible X-ray source trajectories on Varian TrueBeam OBI," RSNA 2011, Chicago, IL

42. Deshan Yang, **Jun Tan**, S. Murty Goddu, Dharanipathy Rangaraj, "CBCT with flexible image trajectories to improve image quality and longitudinal coverage – concept, simulation and digital phantom study," AAPM 2011, Vancouver, Canada. DOI: <https://doi.org/10.1118/1.3611589>
43. **Jun Tan**, Xingwei Wang, Leder D, Jiantao Pu, Frank C. Scirba, David Gur, Joseph K. Leader, "Texture-based segmentation and analysis of emphysema depicted on CT images," SPIE Medical Imaging, 2011, Orlando, FL. DOI: <https://doi.org/10.1117/12.878279>
44. **Jun Tan**, Jiantao Pu, Wenzel SE, Joseph K. Leader, "Lung registration using airway tree morphometry," SPIE Medical Imaging, 2011, Orlando, FL
45. Jiantao Pu, **Jun Tan**, "Automated segmentation of pulmonary nodule depicted on CT images," SPIE Medical Imaging, 2011, Orlando, FL
46. Xingwei Wang, **Jun Tan**, Qiu YC, Li YH, Liu H, Li SB, Bin Zheng, "Assessment of a CAD scheme in selecting the optimal focused microscopic scanning images of the metaphase chromosomes," SPIE Medical Imaging, 2011, Orlando, FL
47. Xingwei Wang, Dror Lederman, **Jun Tan**, Xiao Hui Wang, Bin Zheng, "Computerized prediction of breast cancer risk: comparison between the global and local bilateral mammographic tissue asymmetry," SPIE Medical Imaging, 2011, Orlando, FL
48. Dror Lederman, Joseph K. Leader, Bin Zheng, Frank C. Scirba, **Jun Tan**, David Gur, "Quantitative computed tomography of lung parenchyma in patients with emphysema: analysis of higher-density lung regions," SPIE Medical Imaging, 2011, Orlando, FL
49. Joseph K. Leader, Fuhrman CR, Bon JM, **Jun Tan**, Weissfeld JL, Wilson DO, Reilly JJ, David Gur, Frank C. Scirba, "Visual Emphysema Assessment and Quantitative CT Image Analysis," Am J Respir Crit Care Med, 2010, 181(1):A5539
50. **Jun Tan**, Bin Zheng, Sang Cheol Park, Jiantao Pu, Frank C. Scirba, Joseph K. Leader, "Two-dimensional airway analysis using probabilistic neural networks," SPIE Medical Imaging, 2010, San Diego, CA
51. Xiao Hui Wang, Sang Cheol Park, **Jun Tan**, Joseph K. Leader, Bin Zheng, "Improving Performance and Reliability of Interactive CAD Schemes," SPIE Medical Imaging, 2010, San Diego, CA
52. Joseph K. Leader, Bin Zheng, Fuhrman CR, Tedrow J, Sang Cheol Park, **Jun Tan**, Jiantao Pu, Drescher JM, David Gur, Frank C. Scirba, "Association between lung function and airway wall density," in Medical Imaging 2009: Biomedical Applications in Molecular, Structural, and Functional Imaging, Proceedings of SPIE Vol. 7262 (SPIE, Bellingham, WA 2009) 72622J
53. Sang Cheol Park, Kim WP, Bin Zheng, Joseph K. Leader, Jiantao Pu, **Jun Tan**, David Gur, "Pulmonary airways tree segmentation from CT examinations using adaptive volume of interest," in Medical Imaging 2009: Image Processing, Proceedings of SPIE Vol. 7259 (SPIE, Bellingham, WA 2009) 72593U
54. **Jun Tan**, Dingguo Chen, Vipin Chaudhary, Ishwar Sethi, "A template based technique for automatic detection of fiducial markers in 3D brain images," Computer Assisted Radiology and Surgery, 20th International Congress and Exhibition (CARS 2006), June 28 - July 1, 2006 Osaka, Japan
55. Dingguo Chen, **Jun Tan**, Vipin Chaudhary, Ishwar Sethi, "Automatic fiducial localization in brain images, Computer Assisted Radiology and Surgery," 20th International Congress and Exhibition (CARS2006), June 28 - July 1, 2006 Osaka, Japan
56. Djamel Bouchaffra, **Jun Tan**, "Protein Fold Recognition using a Structural Hidden Markov Model," The 18th IEEE International Conference on Pattern Recognition (ICPR2006), Hong Kong, 20-24 August 2006
57. Djamel Bouchaffra, **Jun Tan**, "Introduction to the Concept of Structural HMM: Application to Mining Customers' Preferences for Automotive Designs," the 17th International Conference on Pattern Recognition (ICPR) Cambridge, United Kingdom, 23-26 August 2004

58. Djamel Bouchaffra, **Jun Tan**, "Structural Hidden Markov Model and its Application in Automotive Industry," 5th International Conference on Enterprise Information Systems (ICEIS2003), Angers, France, April 23-26, 2003
59. Djamel Bouchaffra, **Jun Tan**, "Mapping Designs to User Perceptions using a Structural HMM: Application to Kansei Engineering," International Conference on Computational Intelligence for Modeling Control and Automation 2003 (CIMCA2003), Vienna, Austria, 02/12-14, 2003

HONORS AND AWARDS:

1. Received scholarship and stipend for attending 2019 HDR/LDR Prostate Workshop sponsored by American Brachytherapy Society and held in Denver, CO, 11/01/2019 and 11/02/2019
2. 2nd Place Poster Presentation, **Jun Tan**, David Parsons, Pam Lee, Xuejun Gu, "Auto-VMAT-TBI: an automatic treatment planning software platform for Volumetric Modulated Arc Therapy-enabled Total Body Irradiation," SWAAPM 2019, Little Rock, AR
3. BEST IN PHYSICS (IMAGING), **Jun Tan**, H. Harold Li, Murty Goddu, Deshan Yang, "Extend the CBCT Volumetric Coverage Using a Pair of Circular Scans with Complementary and Opposite Detector Lateral and Longitudinal Shifts," 55th AAPM Annual Meeting, 2013, Indianapolis, IN. DOI: <https://doi.org/10.1118/1.4815671>

INTERNAL FUNDING

1. Co-Investigator, Radiation Oncology Invention Grant (\$10,000), "An Automatic Pattern-Recognition Based Contouring Evaluation and Visualization Tool for Radiation Therapy," 01/2014-12/2014, Washington University in St. Louis

MEMBERSHIPS:

- 2011-present, junior member of AAPM

SERVICES:

- Reviewer: Medical Physics (2013-)
- Reviewer: Journal of Digital Imaging (2010-)
- Reviewer: Multimedia Tools and Applications (2009-)
- Reviewer: Advances in Artificial Intelligence (2009-)
- Reviewer: Pattern Recognition (2007-)