#### 506071025 05/21/2020

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date	
QINGRONG JACKIE WU	10/05/2017	
FANG-FANG YIN	12/06/2017	
LULIN YUAN	10/08/2017	

## **RECEIVING PARTY DATA**

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State/Country:	NORTH CAROLINA	
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## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16720184

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ATTORNEY DOCKET NUMBER:	210-62-CON
NAME OF SUBMITTER:	BENTLEY J. OLIVE
SIGNATURE:	/Bentley J. Olive/
DATE SIGNED:	05/21/2020

## **Total Attachments: 8**

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Duke Ref.: DU4544

## **ASSIGNMENT**

THIS ASSIGNMENT, effective on the 1<sup>st</sup> day of September, 2017, by Qingrong Jackie Wu, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; Yaorong Ge, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; Fang-Fang Yin, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; and Lulin Yuan, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; (hereinafter referred to as Assignor[s]);

WHEREAS, Assignors have invented certain new and useful improvements in AUTOMATIC DETERMINATION OF RADIATION BEAM CONFIGURATIONS FOR PATIENT-SPECIFIC RADIATION THERAPY PLANNING, for which a Patent Application was made on September 1, 2017, in the United States as application no. 15/555,489, which claims priority to PCT International Patent Application No. PCT/US2016/021272 filed on March 7, 2016, and which claims the benefit of U.S. Provisional Patent Application Number 62/129,102 filed March 6, 2015.

WHEREAS, Duke University, a College organized under and pursuant to the laws of North Carolina having its principal place of business at 2812 Erwin Rd., Ste 306, Durham, North Carolina 27705 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said invention and said Application for Letters Patent of the United States and all foreign countries, and in and to any Letters Patent of the United States and all foreign countries to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, Assignor shave assigned, transferred and set over, and by these presents do assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the abovementioned invention and applications for Letters Patent, and in and to any and all divisionals, continuations and continuations-in-part of said applications, and any and all

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Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this assignment not been made. The assignment of the right to claim entitlement and/or priority is executed *nunc pro tunc* and is considered effective as of the filing date of the earliest application to which priority and/or entitlement is claimed.

This Assignment is based on our employment relationship with Duke University to assign the foregoing invention, and any patent applications therefore, in exchange for Assignee payment of patent prosecution costs and other valuable consideration, the receipt and sufficiency of which is hereby expressly acknowledged by the inventors.

AND, for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title, and interest in and to the said inventions and applications for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to assign and convey the same in the manner herein set forth.

AND, for the same consideration, Assignors hereby covenant and agree, and likewise binds his heirs, legal representatives and assigns, to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said invention, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any

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proceeding in connection with said invention, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said invention in any country, including but not limited to derivative or post-grant proceedings, is lawful and desirable; or that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the U.S. Commissioner of Patent and Trademarks and the Patent and Trademark Offices of all foreign countries respectively, to issue said Letters Patent of the United States and all foreign countries to Assignee, as Assignee of said invention and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

<< Signature Page Follows >>

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Duke Ref.: DU4544

ASSIGNEE

Executed this \_\_\_\_\_\_\_, day of \_\_\_\_\_\_\_\_, 2017

Assignee Signature:

Eric F. Wagner

Title: Associate Director - Legal

Address: Doke University

2812 Erwin Rd, Ste. Mail Box 90083 Durham, NC 27708

Witnessed by:

Kauric Holland 12/7/2017
Name Date

Jabour Clerito 12/2/17

ij.

Duke Ref.: DU4544

**ASSIGNORS** 

Inventor Signature:

Qingrong Jackie Wu

Witnessed by:

Name Date

Name Date

Atty Docket No.: 210 Duke Ref.: DU4544	9-62-UTIL	
ASSIGNORS		
Executed this	_ day of, 201	7
Inventor Signature: _	Yaorong Ge	-
Witnessed by:		
Name		Date

Name

Date

Atty Docket No.: 210-62-UTIL
Duke Ref.: DU4544
ASSIGNORS

Inventor Signature:

Fang-Fang Yin

Witnessed by:

12/6/2017

Date Name

Duke Ref.: DU4544
ASSIGNORS

Executed this <u>Fighth</u>day of <u>October</u>, 2017

Inventor Signature: <u>Lulin Yuan</u>

Atty Docket No.: 210-62-UTIL

Witnessed by:

| Xulli XiaoyanLin 10-8-2017 |
Name	Date
Shizhan yean	10-8-2017
Mame	Date
Date	Date