

# Storage Media for Determining Optimal Respiratory Treatment

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## **Systems, methods, and computer-readable media storing instructions for automatically determining optimal treatment phase for delivering radiation therapy based on respiration motion of a patient**

Georgia Tech inventors have developed systems, methods, and computer-readable media storing instructions for automatically determining optimal treatment phase for delivering radiation therapy based on respiration motion of a patient. The proposed invention has the potential to improve radiation treatment.

### **Summary Bullets**

- Automatically determines optimal radiation therapy treatment phase
- Enables higher, more effective radiation dosage amounts
- Minimizes unnecessary radiation to normal surrounding tissues

### **Solution Advantages**

- Automatically determines optimal radiation therapy treatment phase
- Enables higher, more effective radiation dosage amounts
- Minimizes unnecessary radiation to normal surrounding tissues
- Improves radiation therapy outcomes

### **Potential Commercial Applications**

- Improving radiation targeting and delivery within the chest and abdomen, which is greatly affected by the respiratory cycle

### **Background and More Information**

In radiation therapy, a very precisely targeted radiation beam is aimed at a tumor. Respiratory gating is the process of continuously monitoring the movement of tumors during normal breathing. Radiation is only delivered when the tumor is exactly in the right place, and the treatment beam automatically turns off when the tumor moves outside of the target field. Errors in selecting the treatment phase can have devastating consequences for the surrounding normal tissue.

## Inventors

- Dr. Lei Zhu  
Associate Professor - Georgia Tech School of Mechanical Engineering
- Dr. Jerome Landry  
Professor - Emory University - department of Radiation Oncology
- Dr. Mohammad Khan  
Associate Professor - Emory University - department of Radiation Oncology

## IP Status

: US9919163B2

## Publications

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## Images

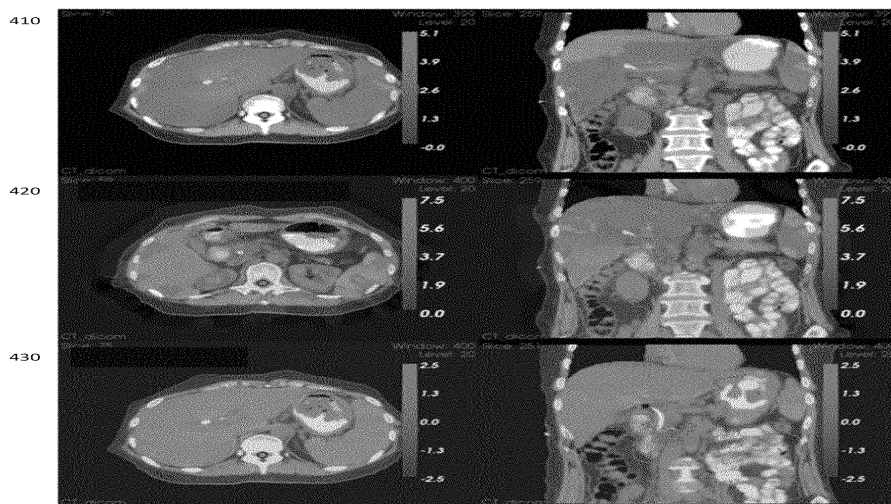


FIGURE 4

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<https://s3.sandbox.research.gatech.edu/print/pdf/node/3459>