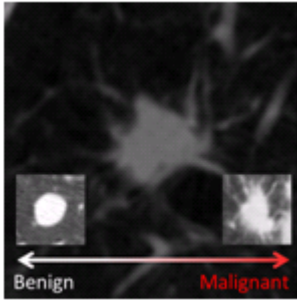


# **SPIE-AAPM-NCI Lung Nodule Classification Challenge Dataset (SPIE-AAPM Lung CT Challenge)**

## Summary



### Redirection Notice

This page will redirect to <https://www.cancerimagingarchive.net/collection/spie-aapm-lung-ct-challenge/> in about 5 seconds.

As part of the 2015 SPIE Medical Imaging Conference, SPIE – with the support of American Association of Physicists in Medicine (AAPM) and the National Cancer Institute (NCI) – will conduct a “Grand Challenge” on quantitative image analysis methods for the diagnostic classification of malignant and benign lung nodules. The LUNGx Challenge will provide a unique opportunity for participants to compare their algorithms to those of others from academia, industry, and government in a structured, direct way using the same data sets.

- Release date of calibration set cases with truth: **November 21, 2014**
- Release date of test set cases without truth: **January 9, 2015**
- Submission date for participants to submit test set classification results: **February 6, 2015**
- SPIE Medical Imaging meeting: **February 21 to 26, 2015**

**For more information please refer to: [LUNGx SPIE-AAPM-NCI Lung Nodule Classification Challenge](#), the [related SPIE Guest Editorial](#), and corresponding [scientific manuscript](#).**

### Data Access

#### Data Access

| Data Type                                            | Download all or Query/Filter                                                                                    | License   |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------|
| Images (DICOM, 12.1GB)                               | <a href="#">Download</a> <a href="#">Search</a><br>(Download requires the <a href="#">NBIA Data Retriever</a> ) | CC BY 3.0 |
| Nodule Locations/Diagnoses - Calibration Set (XLS, ) | <a href="#">Download</a>                                                                                        | CC BY 3.0 |
| Nodule Locations/Diagnoses - Test Set (XLS, 55 kB)   | <a href="#">Download</a>                                                                                        | CC BY 3.0 |

Click the Versions tab for more info about data releases.

## Additional Resources for this Dataset

The NCI Cancer Research Data Commons (CRDC) provides access to additional data and a cloud-based data science infrastructure that connects data sets with analytics tools to allow users to share, integrate, analyze, and visualize cancer research data.

- [Imaging Data Commons \(IDC\)](#) (Imaging Data)

### Detailed Description

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| Collection Statistics |        |
|-----------------------|--------|
| Modalities            | CT     |
| Number of Patients    | 70     |
| Number of Studies     | 70     |
| Number of Series      | 70     |
| Number of Images      | 22,489 |
| Images Size (GB)      | 12.1   |

**For more information please refer to: [LUNGx SPIE-AAPM-NCI Lung Nodule Classification Challenge](#), the [related SPIE Guest Editorial](#), and the follow up [scientific manuscript](#).**

Counts below reflect both the training set (10 subjects) and test set (60 subjects). The Patient IDs of the 10-subject training set begin **CT-Training**. The Patient IDs of the 60-subject test set begin **LUNGx**.

## Nodule locations and diagnoses

- [CalibrationSet\\_NoduleData.xlsx](#) - Nodule locations and diagnoses
- [TestSet\\_NoduleData.xlsx](#) - Nodule locations; diagnoses to be added after manuscript publication

### Citations & Data Usage Policy

### Citations & Data Usage Policy

Users must abide by the [TCIA Data Usage Policy and Restrictions](#). Attribution should include references to the following citations:

#### Data Citation

Armato III, Samuel G.; Hadjiiski, Lubomir; Tourassi, Georgia D.; Drukker, Karen; Giger, Maryellen L.; Li, Feng; Redmond, George; Farahani, Keyvan; Kirby, Justin S.; Clarke, Laurence P. (2015). **SPIE-AAPM-NCI Lung Nodule Classification Challenge Dataset**. The Cancer Imaging Archive. <https://doi.org/10.7937/K9/TCIA.2015.UZLSU3FL>

### Publication Citation

Armato III SG, Hadjiiski LM, Tourassi GD, Drukker K, Giger ML, Li F, Redmond G, Farahani K, Kirby JS, Clarke LP. (2015). **Guest Editorial: LUNGx Challenge for computerized lung nodule classification: reflections and lessons learned.** Journal of Medical Imaging. SPIE-Intl Soc Optical Eng. DOI: [10.1117/1.jmi.2.2.020103](https://doi.org/10.1117/1.jmi.2.2.020103)

### Publication Citation

Samuel G. Armato, Karen Drukker, Feng Li, Lubomir Hadjiiski, Georgia D. Tourassi, Roger M. Engelmann, Maryellen L. Giger, George Redmond, Keyvan Farahani, Justin S. Kirby, Laurence P. Clarke. (2016) "**LUNGx Challenge for computerized lung nodule classification,**" *J. Med. Imag.* 3(4), 044506. DOI: [10.1117/1.JMI.3.4.044506](https://doi.org/10.1117/1.JMI.3.4.044506)

### TCIA Citation

Clark K, Vendt B, Smith K, Freymann J, Kirby J, Koppel P, Moore S, Phillips S, Maffitt D, Pringle M, Tarbox L, Prior F. (2013) **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, Journal of Digital Imaging, Volume 26, Number 6, pp 1045-1057. DOI: [10.1007/s10278-013-9622-7](https://doi.org/10.1007/s10278-013-9622-7)

## Other Publications Using This Data

TCIA maintains [a list of publications](#) which leverage our data. If you have a publication you'd like to add please [contact TCIA's Helpdesk](#).

### Versions

#### Version 2 (Current): Updated 2016/09/23

| Data Type                                          | Download all or Query/Filter                                                                                    |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Images (DICOM, 12.1GB)                             | <a href="#">Download</a> <a href="#">Search</a><br>(Download requires the <a href="#">NBIA Data Retriever</a> ) |
| Nodule Locations/Diagnoses - Calibration Set (XLS) | <a href="#">Download</a>                                                                                        |
| Nodule Locations/Diagnoses - Test Set (XLS)        | <a href="#">Download</a>                                                                                        |

Added diagnosis data to test set XLS.

#### Version 1: Updated 2014/11/21

| Data Type                                          | Download all or Query/Filter                                                             |
|----------------------------------------------------|------------------------------------------------------------------------------------------|
| Images (DICOM, 12.1GB)                             | <a href="#">Download</a><br>(Download requires the <a href="#">NBIA Data Retriever</a> ) |
| Nodule Locations/Diagnoses - Calibration Set (XLS) | <a href="#">Download</a>                                                                 |

|                                   |                          |
|-----------------------------------|--------------------------|
| Nodule Locations - Test Set (XLS) | <a href="#">Download</a> |
|-----------------------------------|--------------------------|