

QIN PET Phantom

Summary

This collection consists of positron emission tomography (PET) phantom scans originally utilized by the Quantitative Imaging Network (QIN) PET Segmentation Challenge to assess the variability of segmentations and subsequently derived quantitative analysis results on phantom PET scans with known ground truth.

The phantom was provided by Dr. Sunderland at the University of Iowa (supported by grant R01CA169072 - Harmonized PET Reconstructions for Cancer Clinical Trials) and is based on the NEMA IEC Body Phantom Set™ (Model PET/IEC-BODY/P) with a set of 6 custom made (via rapid prototyping) spheres & ellipses (Fig. 1). The phantom was scanned at two QIN sites (University of Iowa and University of Washington) with different scanners, following a protocol that yields four image sets (Fig. 2) per site. The DICOM PET images are organized as shown in Fig. 3. These figures are located in the Detailed Description tab below.

Please send questions regarding the QIN PET to qin_pet_challenge@iibi.uiowa.edu.




About the NCI QIN

The mission of the QIN is to improve the role of quantitative imaging for clinical decision making in oncology by developing and validating data acquisition, analysis methods, and tools to tailor treatment for individual patients and predict or monitor the response to drug or radiation therapy. More information is available on the [Quantitative Imaging Network Collections](#) page. Interested investigators can apply to the QIN at: [Quantitative Imaging for Evaluation of Responses to Cancer Therapies \(U01\) PAR-11-150](#).

Data Access

Data Access

Click the **Download** button to save a ".tcia" manifest file to your computer, which you must open with the [NBIA Data Retriever](#). Click the **Search** button to open our Data Portal, where you can browse the data collection and/or download a subset of its contents.

Data Type	Download all or Query/Filter
Images (DICOM, 0.246GB)	 
DICOM Metadata Digest (CSV)	

Click the Versions tab for more info about data releases.

Detailed Description

Detailed Description

Collection Statistics	
Modalities	PET

Number of Participants	2
Number of Studies	4
Number of Series	55
Number of Images	2,816
Image Size (GB)	0.246

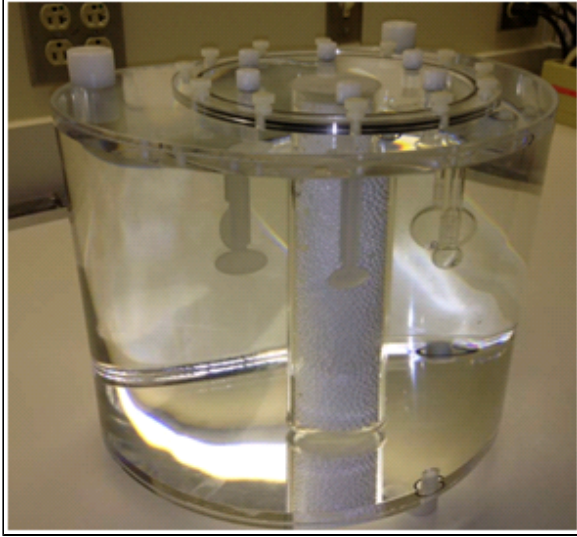


Fig. 1. Phantom used in the QIN PET challenge.

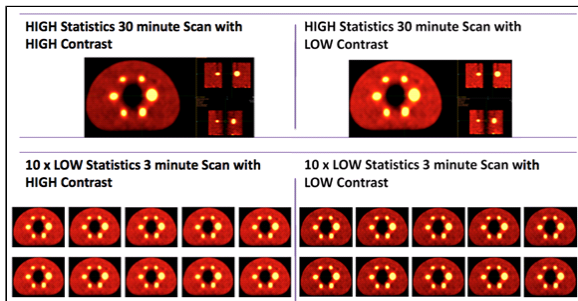


Fig. 2. Overview of image sets.

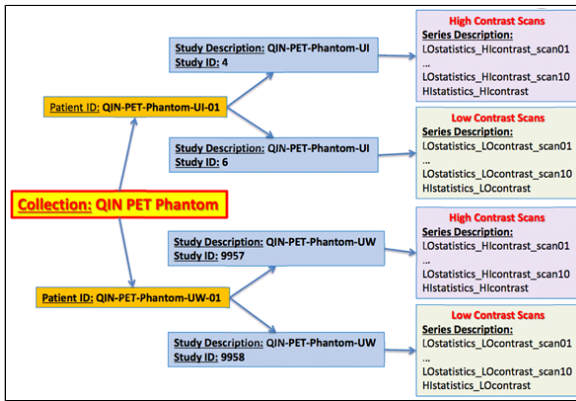


Fig. 3. Organization of DICOM PET scans.

Citations & Data Usage Policy

Citations & Data Usage Policy

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Attribution should include references to the following citations:

i Data Citation

Beichel, Reinhard R., Ulrich, Ethan J., Bauer, Christian, Byrd, Darrin W., Muzi, John P., Muzi, Mark, ... Buatti, John M. (2015). Data From QIN_PET_Phantom. The Cancer Imaging Archive. <http://doi.org/10.7937/K9/TCIA.2015.ZPUKHCKB>

i 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. **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, Journal of Digital Imaging, Volume 26, Number 6, December, 2013, pp 1045-1057. ([paper](#))

Other Publications Using This Data

TCIA maintains [a list of publications](#) that leverage our data. At this time we are not aware of any publications based on this data. If you have a publication you'd like to add, please [contact the TCIA Helpdesk](#).

Versions

Version 1 (Current): Updated 2014/09/04

Data Type	Download all or Query/Filter
Images (DICOM, 0.246GB)	<div style="display: flex; gap: 10px;"> Download Search </div> <p>(Requires the NBIA Data Retriever .)</p>

DICOM Metadata Digest (CSV)

