# P3333.2.5.1

**Submitter Email:** ylm2103@gmail.com
**Type of Project:** New IEEE Standard
**PAR Request Date:** 26-Jul-2018
**PAR Approval Date:** 27-Sep-2018
**PAR Expiration Date:** 31-Dec-2022
**Status:** PAR for a New IEEE Standard
**Project Record:** P3333.2.5.1

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**1.1 Project Number:** P3333.2.5.1
**1.2 Type of Document:** Standard
**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard for Soft Tissue Modeling for Medical 3D Printing

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**3.1 Working Group:** 3D Based Medical Application Working group (EMB/Stds Com/3333.2)
**Contact Information for Working Group Chair**
**Name:** Young Lae Moon
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**Name:** Emre Huri
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**3.2 Sponsoring Society and Committee:** IEEE Engineering in Medicine and Biology Society/Standards Committee (EMB/Stds Com)
**Contact Information for Sponsor Chair**
**Name:** Carole Carey
**Email Address:** c.carey@ieee.org
**Phone:** 301-776-9882
**Contact Information for Standards Representative**
None

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**4.1 Type of Ballot:** Individual
**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 03/2021
**4.3 Projected Completion Date for Submittal to RevCom**
**Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.:** 10/2021

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 40
**5.2 Scope:** This standard describes a defined model data file format standard for consistent 3D printing that reduces the 3D printing output variability of soft tissue in medical images. Standardization involves acquiring model data with physical density and size characteristics through medical tomography image calibration and developing digital file format data using image segmentation technology.

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No
**5.4 Purpose:** To establish the standardization of medical imaging and modeling procedures for soft tissue 3D printing in medical environment. In the soft tissue cases, image processing and segmentation are required, however there is no standardization for intensity range because it is taken by various devices and protocols such as Magnetic Resonance Imaging (MRI) or Computed Tomography (CT), or injection protocol.

**5.5 Need for the Project:** Medical 3D Printing has high technological barriers, which do not necessarily exist in other industries. Medical 3D Printer requires high reliability in producing useful and cost-effective products leading to the market and process standardization of 3D solutions to various requirements.

**5.6 Stakeholders for the Standard:** 3D Printer Manufacturers
3D Printing filament (material) manufacturers
Medical Imaging Equipment Manufacturers
Medical 3D signal processing engine developers
S/W programmers for 3D volume imaging Medical practitioner

Health care manager Medical researcher
Medical device developer
3D product manufacturer

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**Intellectual Property**
**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No
**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

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**7.1 Are there other standards or projects with a similar scope?:** No
**7.2 Joint Development**
**Is it the intent to develop this document jointly with another organization?:** Yes
**Organization:** ISO
**Technical Committee Name:** Additive manufacturing
**Technical Committee Number:** TC 261
**Contact Name:** Mr Lutz Wrede
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**8.1 Additional Explanatory Notes:** WG is in the process of establishing liaison with DICOM to maintain open communication and collaboration.
the DICOM Standard (NEMA PS3 / ISO 12052) defines digital file formats for all medical imaging modalities, image segmentation, and parametric maps.