

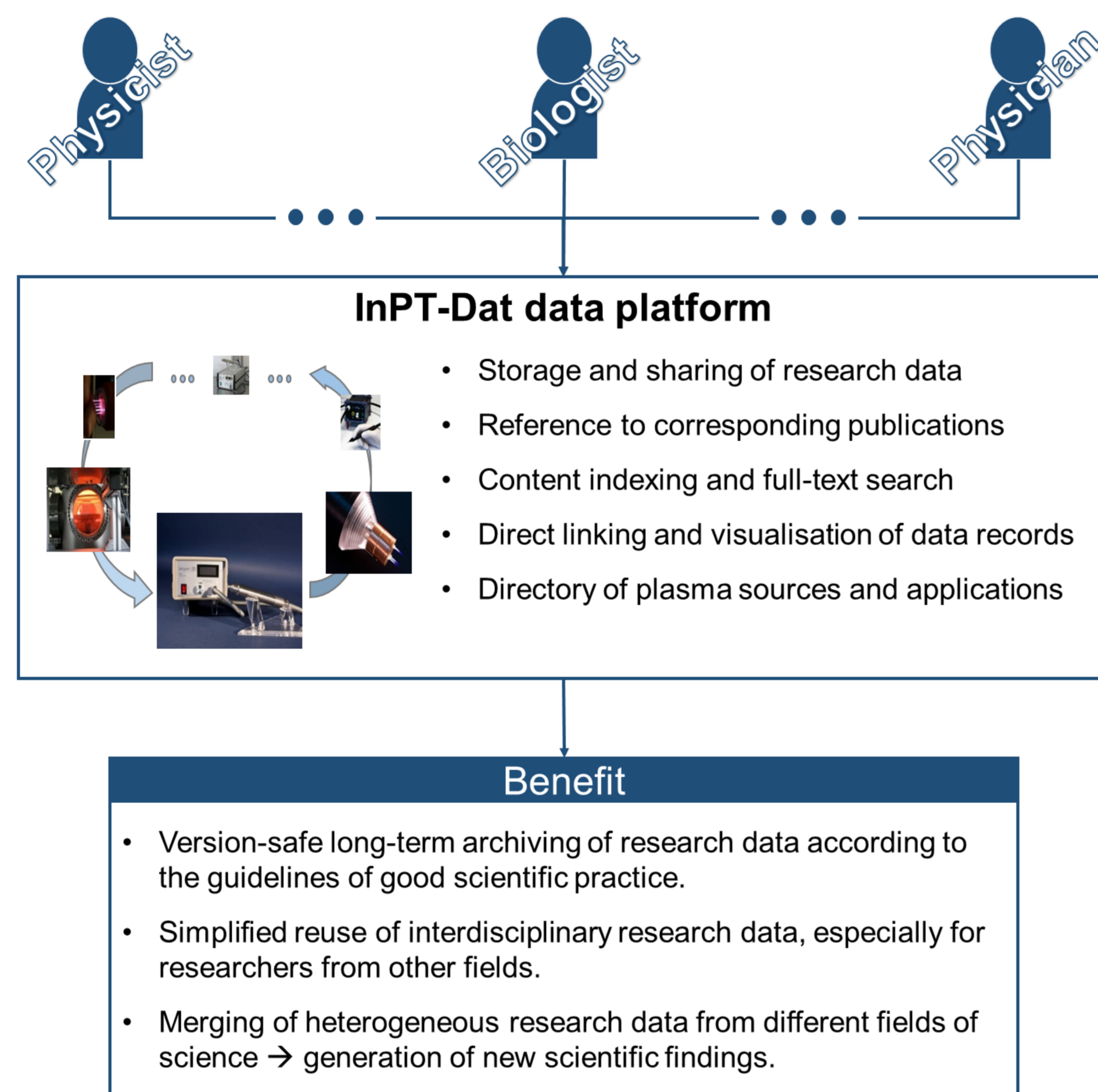


# Research Data Management and Metadata in Plasma Technology

## Introduction

- The project InPT-Dat („Interdisziplinäre Plasmatechnologie-Datenplattform“) aims to tackle the question of how research results in the different fields of low-temperature plasma physics (physics, chemistry, biology, medicine and very recently agriculture) can effectively be linked together and made accessible and reusable for scientists and industry in the different fields.
- The goal is to develop a metadata schema allowing research data management in accordance with the FAIR data principles (Findable, Accessible, Interoperable and Reusable).
- The metadata schema is applied for the development of a research data repository at INP in Greifswald.

## Conception of the data management platform



## Status of the data management platform

- The Drupal based open data platform DKAN is used as a basis to establish an institutional research data management platform at INP.
- The integrated DKAN features and Drupal modules for direct data access and online visualization are used for linking related data.

## Data set view

InPT-Dat – The Data Platform for Plasma Technology  
Leibniz Institute for Plasma Science and Technology

3 results

- Introduction to DIN-specification 91315 based on the characterization of the plasma jet kINPen® MED
- Specifications of kINPen MED
- The Plasma Jet kINPen – A Powerful Tool for Wound Healing

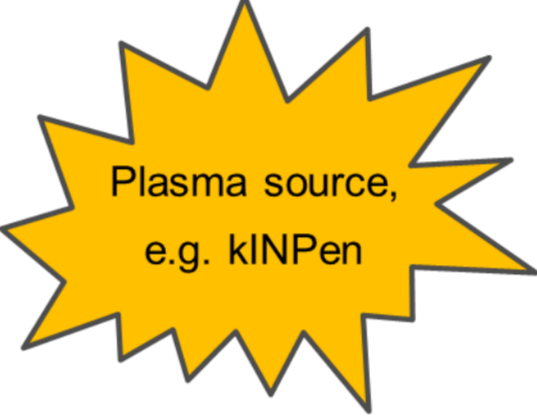
## Plasma specific metadata

- An interdisciplinary plasma technology metadata schema is suggested based on the commonly accepted general metadata schema Dublin Core Terms

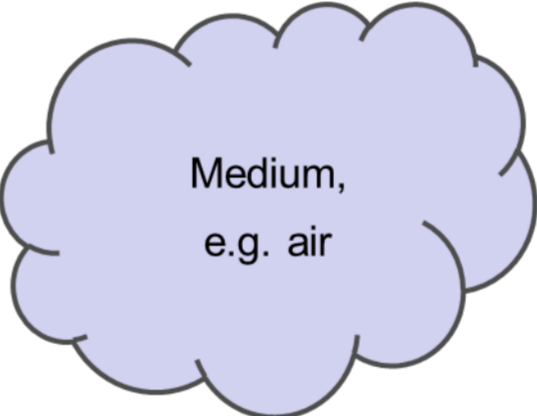
## Dublin Core Terms

Label	Field (schema.element.qualifier)	Content
Description	dct.description	Abstract or summary
Group	dct.publisher	Department
Title	dct.title	
Topic	dct.subject	From taxonomie of subjects (topics)
Licence	dct.rights.licence	e.g. Creative Commons Attribution
Authors	dct.contributor.creator	
Permanent Identifier (DOI)	dct.identifier.doi	DOI of the dataset
Permanent Identifier (URI)	dct.identifier.uri	Uniform Ressource Identifier (URL)
Is supplementing (referencing)	dct.relation.references	Reference to published paper
Rights	dct.rights	Access level
Language	dct.language	Language used

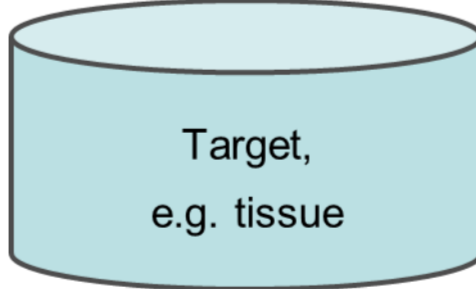
## Extension: Interdisciplinary Plasma Technology Metadata Schema




Label	Field (schema.element.qualifier)	Content
Plasma source name	plasma.source.name	Name of the plasma source. (Preferably from a list of names plasma sources.)
Plasma source application	plasma.source.application	Application the plasma source is intended for. (Might be more than one. Preferably from a list of named plasma applications.)
Plasma source properties	plasma.source.properties	Properties of the plasma source. (power, current amplitude, current waveform, frequency, gas, etc.)
Plasma source procedure	plasma.source.procedure	Procedure to prepare the plasma source. This field should also be used to described the whole procedure including medium and target. That is a (standardized) procedure to treat a medium (if relevant) and act on a target (if necessary).



Label	Field (schema.element.qualifier)	Content
Medium name	plasma.medium.name	Medium name the plasma source is acting on or operated in (e.g. water, dry air). The medium is an optional meta datum and must be given only if the action of the plasma on a target is mediated by some substance without presence of a plasma.
Medium properties	plasma.medium.properties	Properties of the medium, like humidity (air), distilled water.
Medium procedure	plasma.medium.procedure	Standard procedure to prepare the medium (pre-treatment).



Label	Field (schema.element.qualifier)	Content
Target name	plasma.target.name	Target name the plasma source is acting on either directly or mediated by the above named medium. Can be omitted if only the characterization of a plasma source is intended.
Target properties	plasma.target.properties	Properties of the target (SiO <sub>2</sub> , polymer, bacteria).
Target procedure	plasma.target.procedure	Standard procedure to prepare the Target (pre-treatment).



Label	Field (schema.element.qualifier)	Content
Resource file type	plasma.resource.filetype	Which file types are saved with this dataset. (pdf, jpg, ascii, proprietary file types, etc.)
Resource data type	plasma.resource.datatype	Which kind of digital data are saved with this dataset (report/pdf, SEM image/jpg, cfu-plot/ascii, Proteomics, 2D optical emission spectroscopy, etc.). Additional metadata might be given with certain data types.
Resource range	plasma.resource.range	In which range the resource is valid.
Resource quality	plasma.resource.quality	Data quality score.

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References  
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<https://getdkan.org>  
<http://dublincore.org>

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