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**NATIONAL STANDARD OF THE
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**Biomimetics - Ontology-Enhanced Thesaurus (OET) for
biomimetics**

(English Translation)

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Table of Contents

Preface	
Introduction	
1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.The role of bionics knowledge infrastructure	2
4.1 Overview	2
4.2 Related work in the BID design process framework	2

Foreword

This document is a report-type guidance technical document.

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is equivalent to ISO /T R23845.2020 "Bionics - Ontology-enhanced thesaurus for Bionics".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Bionics (SAC/TC598).

Introduction

Lexicons are typically used to establish mappings between terms across different knowledge domains. The bionics knowledge infrastructure project aims to fill gaps in biological knowledge.

The gap between academics and engineering technology. Because concepts in these two fields are not clearly linked by keywords, this project is most...

Assuming the work has been postponed, but the ontology-enhanced thesaurus (OET) can be used as a standalone tool, it does not require...

It requires an existing thesaurus. See section 5.2 for more details.

OET addresses a portion of the knowledge infrastructure. It consists of a biomimetic ontology and an application called a keyword browser.

The application provides an interactive interface with the ontology. OET and the keyword browser map technical terms to biological terms.

To help designers, engineers, and other practitioners of biomimetic and bio-inspired design (BID), and then be able to

Use these terms to search biological texts to identify biological models (see Figure 3). For example, a traditional thesaurus might associate "anti-fouling" with "self-cleaning" or...

The term "stain removal" is associated with this. Biomimetic terminology databases or internet keyword searches may additionally return "stain resistance." OET can identify terms related to "stain resistance."

The function of the organism but not directly associated with the term.

Chapter 4 provides a brief overview of the latest advancements in biomimetic tools and systems, and presents the role of OET and keyword browsers in related work.

The positioning. Chapter 5 describes the OET and its design principles. Chapters 6 and 7 describe in detail the ontology implemented in the OET. Chapter 8.

The process of accessing and running a keyword browser prototype to obtain reader feedback is described.

Note: The Keyword Browser and the public version of OET are available as a web application at <http://biomimetics.hozo.jp/OET/demo.html>

The prototype contains only one function (anti-fouling) but has implemented the functionality of a demo version. The corresponding ontology can be accessed via <http://biomimetics>.

The "Browse Biomimetic Ontology" option in hozo.jp/OET allows you to view the ontology, but you cannot download it directly.

Bionics. Ontology-Enhanced Lexicon

1 Scope

This document describes the prototype of the Ontology Enhanced Thesaurus (OET) and the keyword browser interface for OET. Although this document describes...

The design philosophy of OET and Keyword Browser is described, but the focus is on explaining the core value and operating mechanism of the system.

3 Terms and Definitions

The following terms and definitions apply to this document.

ISO and IEC maintain a terminology database for standardization at the following website.

3.1

data

The smallest unit of information that is meaningful to potential readers or users.

Note: In many cases, data is a component of a larger entity, such as a dataset or database. Data may be in textual form, such as a research paper, or...

It can include simulation models, algorithms, numbers, images, charts, audio and video recordings, etc.

3.2

database

A collection of almost any digital object, such as text, images, sound, video, etc.

3.3

A collection of software that allows users to retrieve information from a database (3.2).

Note: Typically, ontology or thesaurus is incorporated into information retrieval services.

3.4

index

Key terms (usually arranged alphabetically) and pointers to the original sources of each term (including books, research papers, or other writings).

A collection of forms.

metadata

Provide data (3.1) regarding other data information.

Note: The keywords in the index are metadata extracted from the main text.

3.6

Ontology

In the fields of knowledge management and artificial intelligence, this refers to the formalization, structuring, and explicit definition of concepts and their interrelationships within a specific domain.

describe.

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