Finding academic literature
Presenter: Cora Bezuidenhout
10 April 2018
Definition: Literature review

“A research literature review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners.”

The purpose of the literature review

• A good literature review shows that you are aware of what is going on in the field

• That there is a theory base for the work you are proposing to do

• How your work fits in with what has already been done (it provides a detailed context for your work)

• That your work has significance

• That your work will lead to new knowledge.

Hofstee, E. (2006) Constructing a good dissertation: a practical guide to finishing a master's, MBA or PhD on schedule. Sandton, South Africa: EPE.

http://www.exactica.co.za/
A good literature review

- Comprehensive
- Fair in treatment of authors – do not presume that you know all authors within the field
- Critical analysis
- Topical – not dated
- Not confined to internet resources
- Contextualised
The Research Cycle

1. Define the Essential Question
2. Develop Subsidiary Questions
3. Gather Information
4. Sort and Sift through Information
5. Synthesize Information into new concepts.
6. Revise Questions
7. Evaluate whether questions have been answered.
8. Report Conclusions
9. Revise Plan

50 April 2018
Research Process Cycle

- Reporting and Evaluating Research: Deciding on audiences, Structuring the report, Writing the report sensitively.
- Identifying a Research Problem: Specifying a problem, Justifying it, Suggesting the need to study it for audiences.
- Specifying a Purpose for Research: Identifying the purpose statement, Narrowing the purpose statement to research questions or hypothesis.
- Analyzing and Interpreting data: Breaking down the data, Representing the data, Explaining the data.
- Reviewing the literature: Locating resources, Selecting resources, Summarizing resources.
What is peer review?

Reviewers play a central role in scholarly publishing. Peer review helps validate research, establish a method by which it can be evaluated, and increase networking possibilities within research communities. Despite criticisms, peer review is still the only widely accepted method for research validation.

https://www.elsevier.com/reviewers/what-is-peer-review
Why the library web interface?

• One simple search interface.
• Locate books, articles, journals, videos
• Specialized databases can be accessed, such as ScienceDirect, EBSCO, etc.
• Direct links to articles and other resources subscribed to by the UP library.
• To access full text from [Access online], log in using your Tuks login.
Research Guide: UP Library Home

This Guide provides post graduate students with the tips and tools necessary to successfully complete their research.

Welcome to Research

This Research Guide provides tips and tools for postgraduate students to complete their research.

Additional sources:
- Hatfield Research Commons
- Groenkloof Research Commons
- Information specialists

News and Announcements

- Training schedule for postgraduate students
Enquiries: research.commons@up.ac.za

Motivational quote

Always do your best. What you plant now, you will harvest later. - Og Mandino
But how?

- analyse Topic
- Understand concepts
- determine Keywords
- do the Search
Keyword search

- A keyword search uses one or more complete words that are contained anywhere in the item's record, including: titles, notes, abstracts, summaries, descriptions and subjects. Keywords can also be names of people and places that are the subjects of a library resource or a listing in a directory.
- You can enter words in upper or lower case, and if you use multiple words you can enter them in any order.

<table>
<thead>
<tr>
<th>This search...</th>
<th>Returns these titles...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keyword:</strong></td>
<td>Abnormal <em>blood chemistry</em> values in Hodgkin's disease</td>
</tr>
<tr>
<td></td>
<td><em>Chemistry of blood</em> type</td>
</tr>
<tr>
<td>blood chemistry</td>
<td><em>Early blood chemistry</em> in Britain and France</td>
</tr>
<tr>
<td></td>
<td>General clinical <em>chemistry</em> — <em>Blood</em> loss from laboratory tests</td>
</tr>
</tbody>
</table>
Boolean Operators

Boolean operators allow you to group, include, or exclude certain terms in your search.

You can use these operators:

- **AND** +
- **OR** |
- **NOT** -
- " "
- ()
Phrase search

A phrase search uses quotation marks " " to allow an exact match to the phrase
Or use =
eg. ti=blood chemistry
au=John Smith

<table>
<thead>
<tr>
<th>This search...</th>
<th>Returns these titles...</th>
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<tr>
<td>&quot;blood chemistry&quot;</td>
<td>Abnormal blood chemistry values in Hodgkin's disease</td>
</tr>
<tr>
<td></td>
<td>Blood chemistry tutorials</td>
</tr>
<tr>
<td></td>
<td>Early blood chemistry in Britain and France</td>
</tr>
<tr>
<td></td>
<td>Study in post-operative blood chemistry</td>
</tr>
</tbody>
</table>
Truncation

- Truncation allows you to search for a term and its variations by entering a minimum of the first three letters of the term followed by a question mark symbol (?) or an asterisk (*).
- Examples:

<table>
<thead>
<tr>
<th>This search...</th>
<th>Returns items whose record contains...</th>
</tr>
</thead>
</table>
| securit*       | security
|                | securities
|                | securitization
| invest*        | investor
|                | invested
|                | investing
|                | investiture
|                | investment |
Tuks login to get access to online resources

Login

Please log in with your "p" or "u" username.

For example, Username: u01234567 or p12345678

Username

Password

Login
water quality management
3. Understanding water quality management: technology and applications

by W. Wesley Eckefelder, William Neff Hansard

Held by: University of Pretoria Libraries

Annotation: This professional reference presents specialized information about the sources of water pollution and the techniques now in use to improve water quality.

Access online

View all editions.

4. Principles of water quality management

by W. Wesley Eckefelder

Held by: University of Pretoria Libraries

Available: Merensky Library Open Collection Level 5

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Further filtering options

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E-journals
<table>
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<th>Publication</th>
<th>Database / Coverage</th>
<th>Report a broken link</th>
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<td>Chemical Engineering Science</td>
<td>ScienceDirect Journals - Elsevier (1951-present, volume:1;issue:1)</td>
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<tr>
<td>Access journal</td>
<td>Chemical Engineering Science</td>
<td>ScienceDirect - Freedom Collection (All) (1995-present)</td>
<td></td>
</tr>
</tbody>
</table>
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Find the best library databases for your research.

A

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SAGE Research Methods
What every researcher needs

Find resources to answer your research methods and statistics questions
Recommended databases

Consult subject guide

- **Scopus** – World’s largest abstract & citation database of peer-reviewed literature
- **Knovel** – e-books
Search

defformation behav*  

E.g., "heart attack" AND stress

AND

Search

track substructures
32 document results

Search within results...

Refine

Year
- 2016 (6)
- 2015 (4)
- 2014 (2)
- 2013 (6)
- 2012 (6)

Author Name
- Indraratna, B. (9)
- Nimbalkar, S. (6)
- Ruktiakamjorn, C. (4)
- Qian, Y. (2)
- Solig, E.T. (2)

1. Performance improvement of rail track substructure using artificial inclusions – Experimental and numerical studies
   - Indraratna, B., Nimbalkar, S.S., Ngo, N.T., Neville, T.
   - 2016

2. Cyclic and postcyclic triaxial testing of ballast and subballast
   - Bian, X., Jiang, J., Jin, W., (...) Li, W., Li, X.
   - 2016

3. 1st Ralph Proctor Lecture of ISSMGE: Railroad performance with special reference to ballast and substructure characteristics.
   - Indraratna, B.
   - 2016

4. Application of Shock Mats in Rail Track Foundation Subjected to Dynamic Loads
   - Navaratnarajah, S.K., Indraratna, B., Nimbalkar, S.
   - 2016
Performance improvement of rail track substructure using artificial inclusions – Experimental and numerical studies

Indraratna, B. (*), Nimbalkar, S.S. (#), Ngo, N.T. (#) and Neville, T. (#)

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Abstract

Large and frequent loads from heavy freight and passenger trains often lead to the progressive track deterioration. The excessive deformation and degradation of ballast and unacceptable differential settlement of track and/or pumping of underlying soft subgrade soils necessitates frequent and costly track maintenance. However, artificial inclusions such as geogrids and shotcrete can mitigate ballast degradation and improve track performance. A quantitative assessment of the influence of breakage, fouling, and the effects of artificial inclusions on the shear behaviour of ballast can be performed either experimentally or numerically. Numerical modelling can simulate these aspects subject to various types of loading and boundary conditions for a range of material properties so in this study, the stress-strain and degradation response of ballast was analysed through discrete element (DEM) and finite element (FEM) methods. In DEM, irregularly shaped ballast aggregates were simulated by clumping together spheres in appropriate sizes and positions. In FEM, a composite multi-layer track system was simulated and an elastic-plastic model with a non-associative flow rule was used to capture ballast degradation. These DEM and FEM simulations showed a good agreement with large-scale laboratory tests. This paper outlines the advantages of the proposed DEM and FEM models in terms of capturing the correct stress-strain and degradation response of ballast with particular emphasis on particle breakage and fouling, as well as applications of geosynthetic grids and shotcrete mats.
Performance improvement of rail track substructure using artificial inclusions – Experimental and numerical studies

Buddhima Indraratna, Sanjay Shrawan Nimbalkar, Ngoc Trung Ngo, Tim Neville

Received 25 June 2015, Revised 30 March 2016, Accepted 4 April 2016, Available online 13 April 2016

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Large and frequent loads from heavy freight and passenger trains often lead to the progressive track deterioration. The excessive deformation and degradation of ballast and unacceptable differential settlement of track and/or pumping of underlying soft subgrade soils necessitates frequent and costly track maintenance. However, artificial inclusions such as geogrids and shockmats can mitigate ballast degradation and improve track performance. A quantitative assessment of the influence of breakage, fouling, and the effects of artificial inclusions on the shear behaviour of ballast can be...
Type keywords or phrases

sinkhole detect*
ABSTRACT: Several sinkholes were detected in a residential area located close to the northeast coastal side of the Arabian Peninsula. The sinkholes occurred suddenly with different sizes and to a maximum of 31 m in depth. Comprehensive investigation studies were conducted for understanding the causes of the sinkhole occurrence in addition to recommend treatment measures. The results revealed that the geological profile is made of sandy overburden soil uncomfortably overlaying Karst limestone bedrock. The cause of the sinkholes was attributed to the dissolution of the limestone bedrock and the subsequent raveling of the overburden soil cover. Microgravity survey method was used in the geophysical investigation to detect subsurface cavities. The validity of the microgravity survey was confirmed after applying a drilling program. After 15 years, another microgravity survey was conducted in selected locations of the same residential area for the purpose of verifying the current underground status and assessing its development. In this paper, nature of the desert Karst terrain under study is described. The results of the two microgravity surveys are presented. The results confirmed the capability of the microgravity method to detect density anomalies and ground disturbances. The maps showed evolution of the anomalies in some locations within the studied area.

INTRODUCTION

A residential area was developed around 30 years ago in a desert terrain located in the northeast coastal side of the Arabian Peninsula, consisting approximately of 2500 housing units including community services. It is divided to six sectors, A1 to A6. After eight years of construction, four major ground subsidences occurred in the form of sinkholes (SH1 through SH4). The events caused destruction of property and threatened human lives. An immediate action was taken by the government to
Referencing

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Contact details:

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012 420 4710