

Министерство науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение
высшего образования «Российский химико-технологический университет
имени Д.И. Менделеева»

Факультет цифровых технологий и химического инжиниринга
Кафедра информационных компьютерных технологий

ОТЧЕТ

Ведущий преподаватель, к.т.н.

Зубов Д.В.

СТУДЕНТКА группы КС-30

Курочкина А.А.

**Москва
2024**

ОГЛАВЛЕНИЕ

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АНГЛОЯЗЫЧНЫЙ ПОИСК

Research topic:

Designing smart cities

Keywords:

Smart city, urban infrastructure management, digitalization of the city, automation of the city.

1. Smart City – 109088 results

The screenshot shows the ScienceDirect search interface. At the top left is the ScienceDirect logo. On the right, there are links for 'Journals & Books', 'Help', and 'My'. A search bar contains the text 'smart city' with a magnifying glass icon to its right. Below the search bar is a link for 'Advanced search'. Underneath, there is a section for 'Suggested publications:' with five book covers: 'Smart City Assessment', 'SMART CITY CITIZENSHIP', 'Smart City Emergence', 'SMART', and 'Artificial Intelligence and Machine Learning in Smart City Planning'. Below this, the search results are displayed. On the left, it says '109,088 results'. Below that, there are 'Refine by:' options for 'Years' (2025: 398, 2024: 14,216) and 'Article type' (Review articles: 12,635, Research articles: 117,347). The main result is a research article titled 'Designing adaptive policy packages for inclusive smart cities: Lessons from Singapore's smart nation program' by Kritika Sha and Araz Taeliagh, published in 'Sustainable Cities and Society' on 15 November 2024. There is a 'View PDF' link. On the right, there are 'Suggested topics' for 'Smart City' in Engineering and Social Sciences. The results are sorted by relevance.

2. Urban infrastructure management – 152313 results

The screenshot shows the ScienceDirect search interface. At the top left is the ScienceDirect logo. On the right, there are links for 'Journals & Books' and a refresh icon. A search bar contains the text 'urban infrastructure management' with a magnifying glass icon to its right. Below the search bar is a link for 'Advanced search'. Underneath, there is a section for 'Suggested publications:' with five book covers: 'Smart City Assessment', 'SMART CITY CITIZENSHIP', 'Smart City Emergence', 'SMART', and 'Artificial Intelligence and Machine Learning in Smart City Planning'. Below this, the search results are displayed. On the left, it says '152,313 results'. Below that, there are 'Refine by:' options for 'Years' (2025: 426, 2024: 20,358, 2023: 15,649) and 'Article type' (Review articles: 12,635, Research articles: 117,347). The main result is a research article titled 'Embedding opportunities for poverty alleviation in urban green infrastructure design and management using Sot example' by Charlie M. Shackleton, Peta Brom, and Sopna Kumar-Nair, published in 'Cities' in December 2024. There is a 'View PDF' link. Below that, another research article is shown: 'Application of a time-dependent performance-based resilience metric to establish the potential of coupled green urban flood management' by Jiaxuan Zheng, Jiayue Li, and Wenjie Chen, published in 'Sustainable Cities and Society' on 1 October 2024.

3. Digitalization of the city – 221560 results

ScienceDirect Journals & Books

Find articles with these terms

Digitalization of the city

Advanced search

221,560 results

Refine by:

Years

- 2025 (540)
- 2024 (23,536)
- 2023 (20,455)

Show more

Research article

The impact of digital government on energy sustainability: Empirical evidence from prefecture-level
Technological Forecasting and Social Change, December 2024
Zeru Jiang, Chunlai Yuan, Jingru Xu

Research article • Open access

The impact of digital economy on energy conservation and emission reduction: Evidence from prefec
Sustainable Futures, December 2024
Cheng Zhang, Yirui Zhang, ... Xinyu Cheng

4. Automation of the city - 52372 results

ScienceDirect Journals & Books

Find articles with these terms

Automation of the city

Advanced search

52,372 results

Refine by:

Years

- 2025 (173)
- 2024 (5,448)
- 2023 (4,666)

Research article • Open access

Cybersecurity vulnerability and resilience of cooperative driving automation for energy efficiency a
Sustainable Cities and Society, 1 July 2024
Zulqarnain H. Khattak

View PDF

Research article • Open access

1. Active smart switchable glazing for smart city: A review

Author: Aritra Ghosh, Rim Hafnaoui, Abdelhakim Mesloub, Khaled Elkhayat, Ghazy Albaqawy, Mohammed Mashary Alnaim, M.S. Mayhoub

Publication: Journal of Building Engineering

Publisher: Elsevier

Date: 1 May 2024

The screenshot shows the article page on ScienceDirect. The article title is "Active smart switchable glazing for smart city: A review" by Aritra Ghosh et al. The page includes a navigation menu on the left, a main content area with the article title and authors, and a right sidebar with recommended articles and article metrics. Below the article, there is a profile for Dr Aritra Ghosh, a list of his other works, and a citation statistics section.

Journal of Building Engineering
Volume 84, 1 May 2024, 108644

Active smart switchable glazing for smart city: A review

Aritra Ghosh ^a, Rim Hafnaoui ^b, Abdelhakim Mesloub ^c, Khaled Elkhayat ^c, Ghazy Albaqawy ^c, Mohammed Mashary Alnaim ^c, M.S. Mayhoub ^d

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Ссылка на Исправление к статье «Активное интеллектуальное переключаемое остекление для умного города: обзор» [J. Build. Eng. 84, 2024 1-20... Журнал строительной инженерии, том 90, 1 августа 2024 г., стр. 109514 Аритра Гош, Рим Хафнауи, Абдельхакам Меслуб, Халед Эльхайят, Гази Альбакави, Мохаммед Машари Альнаим, М.С. Майхуб

Highlights

Dr Aritra Ghosh
University of Exeter
Подтвержден адрес электронной почты в домене exeter.ac.uk - Главная страница
Smart Glazing BIPV and EV Agrivoltaics Flotovoltaics Hydrogen

НАЗВАНИЕ	ПРОЦИТИРОВАНО	ГОД
How India is dealing with COVID-19 pandemic A Ghosh, S Nundy, TK Mallick Sensors International 1, 100021	314	2020
Impact of COVID-19 pandemic on socio-economic, energy-environment and transport sector globally and sustainable development goal (SDG) S Nundy, A Ghosh, A Mesloub, GA Albaqawy, MM Alnaim Journal of Cleaner Production 312, 127705	291	2021
Possibilities and Challenges for the Inclusion of the Electric Vehicle (EV) to Reduce the Carbon Footprint in the Transport Sector: A Review A Ghosh Energies 13 (10), 2602	283	2020
Potential of building integrated and attached/applied photovoltaic (BIPV/BAPV) for adaptive less energy-hungry building's skin: A comprehensive Review A Ghosh Journal of Cleaner Production 276, 123343	267	2020
State of charge estimation of lithium-ion battery for electric vehicles using machine learning algorithms V Chandran, CK Patil, A Karthick, D Ganeshabherumal, R Rahim, A Ghosh	222	2021

Прочитировано

	Все	Начиная с 2019 г.
Статистика цитирования	8095	7864
h-индекс	53	52
i10-индекс	124	124

Общий доступ ПРОСМОТРЕТЬ ВСЕ

4 статьи недоступно 47 статей доступно

1 Journal of Building Engineering

journal

1.397
Q1

92

2. Nanogenerators for smart cities in the era of 5G and Internet of Things

Author: Xun Zhao, Hassan Askari, Jun Chen

Publication: Joule

Publisher: Elsevier

Date: 16 June 2021



Wayne Xin Zhao

Professor, [Renmin University of China](#)

Подтвержден адрес электронной почты в домене ruc.edu.cn - [Главная страница](#)

[Recommender System](#) [Natural Language Processing](#) [Large Language Model](#)

ПОДПИСАТЬСЯ

СОЗДАТЬ СВОЙ ПРОФИЛЬ

НАЗВАНИЕ	ПРОЦИТИРОВАНО	ГОД
A survey of large language models WX Zhao, K Zhou, J Li, T Tang, X Wang, Y Hou, Y Min, B Zhang, J Zhang, ... arXiv preprint arXiv:2303.18223	2983 *	2023
Comparing twitter and traditional media using topic models WX Zhao, J Jiang, J Weng, J He, EP Lim, H Yan, X Li Advances in Information Retrieval: 33rd European Conference on IR Research ...	1881	2011
Heterogeneous information network embedding for recommendation C Shi, B Hu, WX Zhao, SY Philip IEEE transactions on knowledge and data engineering 31 (2), 357-370	1158	2018
Pre-trained models: Past, present and future X Han, Z Zhang, N Ding, Y Gu, X Liu, Y Huo, J Qiu, Y Yao, A Zhang, ... AI Open 2, 225-250	780	2021
Leveraging meta-path based context for top-n recommendation with a neural co-attention model B Hu, C Shi, WX Zhao, PS Yu	730	2018



Journals & Books Help

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- Outline
 - Context & scale
 - Summary
 - Graphical abstract
 - Keywords
 - Introduction
 - Smart city: Trends of publications
 - Renewable energy sources
 - Intelligent transportation
 - Smart vehicles
 - Human-machine interface
 - Smart healthcare
 - Summary and perspective
 - Acknowledgments
 - Supplemental information
 - References
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Cited by (293)

Figures (12)



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Joule

Volume 5, Issue 6, 16 June 2021, Pages 1391-1431

Review

Nanogenerators for smart cities in the era of 5G and Internet of Things

Xun Zhao^{1,2}, Hassan Askari^{1,2}, Jun Chen¹ ✉

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<https://doi.org/10.1016/j.joule.2021.03.013>

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Context & scale

The implementation of 5G in future smart cities will actualize the era of digitalization full of intelligent wireless sensor nodes. However, through 5G and the Internet of Things (IoT), smart sensing devices will experience a safe and fast wireless communication, and the requirement for sustainable power sources and self-powered active sensing will remain as an open challenge in this field. Nanogenerators (NGs), since their discovery, have shown a great capability for powering wireless sensor nodes as their applications have been systematically investigated in a wide range of systems such as intelligent transportation, smart vehicles, smart healthcare, human-machine interface, and security devices. NGs with their simple structure, flexibility in design, easy fabrication, excellent signal to noise ratio, and different operation modes with wide applicability are considered one of the ideal candidates, not only for sustainably powering wireless sensor nodes but also for the development of intelligent and active self-powered sensors. Another important global challenge in the era of digitalization is the climate change. The use of NG technology in the form of giant energy harvesting platform, especially blue energy and wind energy, will have a significant impact on climate change mitigation, global warming, and



Part of special issue

Other Energy

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Recommended articles

[Achieving over 17% efficiency of ternary all-polymer solar cells with two well...](#)

Joule, Volume 5, Issue 6, 2021, pp. 1548-1565

Rui Sun, ..., Ji Min

View PDF

[Wearable Triboelectric Nanogenerators for Therapeutics](#)

Trends in Chemistry, Volume 3, Issue 4, 2021, pp. 279-292

Xiao Xiao, ..., Jun Chen

[Surface Engineering of Ambient-Air-Processed Cesium Lead Triiodide Layers fo...](#)

Joule, Volume 5, Issue 1, 2021, pp. 183-196

So Me Yoon, ..., Song Il Seok

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Article Metrics

Citations

Citation Indexes: 292

Captures

Readers: 272

Social Media

Shares, Likes & Comments: 20

60 Joule

journal

11.724

Q1

187

3. Self-rechargeable energizers for sustainability

Author: JinKiong Ling, Ria Kunwar, Linlin Li, Shengjie Peng, Izan Izwan Misnon, Mohd Hasbi Ab Rahim, Chun-Chen Yang, Rajan Jose

Publication: eScience

Publisher: Elsevier

Date: July 2022

The screenshot shows the article page on ScienceDirect. The article title is "Self-rechargeable energizers for sustainability" by JinKiong Ling et al. The page includes a table of contents on the left, a list of highlights in the center, and recommended articles on the right. The highlights section lists several key points about self-powered energizers for various applications.



Ling Jin Kiong

Postdoctoral Researcher, Battery Research Center for Green Energy (BRCEG)
 Подтвержден адрес электронной почты в домене stdmail.ump.edu.my
 Sustainability Nano-structuring Energy Storage Electrochemistry

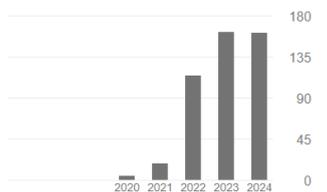
ПОДПИСАТЬСЯ

СОЗДАТЬ СВОЙ ПРОФИЛЬ

НАЗВАНИЕ	ПРОЦИТИРОВАНО	ГОД
Phosphate polyanion materials as high-voltage lithium-ion battery cathode: a review JK Ling, C Karupiah, SG Krishnan, MV Reddy, II Misnon, MH Ab Rahim, ... Energy & Fuels 35 (13), 10428-10450	118	2021
Fiber-Shaped Electronic Devices A Fakharuddin, H Li, F Di Giacomo, T Zhang, N Gasparini, AY Elezzabi, ... Advanced Energy Materials 11 (34), 2101443	98	2021
Electrospinning research and products: The road and the way forward AM Al-Dhahebi, JK Ling, SG Krishnan, M Yousefzadeh, NK Elumalai, ... Applied Physics Reviews 9 (1)	88	2022
A perspective on the commercial viability of perovskite solar cells JK Ling, PKK Kizhakkedath, TM Watson, I Mora-Seró, L Schmidt-Mende, ...	58	2021

Процитировано

	Все	Начиная с 2019 г.
Статистика цитирования	466	466
h-индекс	8	8
i10-индекс	7	7



The banner displays the journal's impact factor and Q1 status. It shows a score of 50 for eScience, a journal ranking of 44, and a Q1 status with a score of 12.288.

4. Moving to a future of smart stormwater management: A review and framework for terminology, research, and future perspectives

Author: James L Webber, Tim Fletcher, Raziye Farmani, David Butler, Peter Melville-Shreeve

Publication: Water Research

Publisher: Elsevier

Date: 30 June 2022



Dr James L Webber

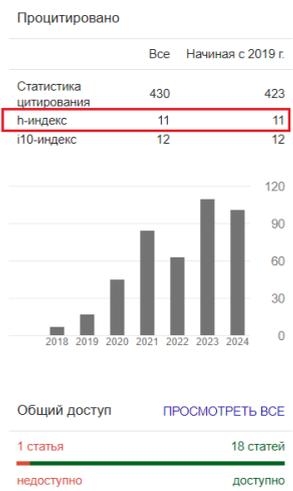
Lecturer in Water Systems Engineering, [University of Exeter](#)
 Подтвержден адрес электронной почты в домене exeter.ac.uk

[Water](#) [Stormwater](#) [Flood Resilience](#) [Green Infrastructure](#) [Smart water systems](#)

ПОДПИСАТЬСЯ

СОЗДАТЬ СВОЙ ПРОФИЛЬ

НАЗВАНИЕ	ПРОЦИТИРОВАНО	ГОД
Is green infrastructure a viable strategy for managing urban surface water flooding? JL Webber, TD Fletcher, L Cunningham, G Fu, D Butler, MJ Burns Urban Water Journal 17 (7), 598-608	79	2020
Moving to a future of smart stormwater management: A review and framework for terminology, research, and future perspectives JL Webber, T Fletcher, R Farmani, D Butler, P Melville-Shreeve Water Research 218, 118409	56	2022
Investigating the effects of pluvial flooding and climate change on traffic flows in Barcelona and Bristol B Evans, AS Chen, S Djordjević, J Webber, AG Gómez, J Stevens Sustainability 12 (6), 2330	42	2020
Rapid assessment of surface-water flood-management options in urban catchments JL Webber, MJ Gibson, AS Chen, D Savic, G Fu, D Butler Urban Water Journal 15 (3), 210-217	42	2018
Stakeholder perspectives on the importance of water quality and other constraints for sustainable mariculture AR Brown, J Webber, S Zonneveld, D Carless, B Jackson, Y Artioli, ... Environmental Science & Policy 114, 506-518	40	2020



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- Outline
- Highlights
- Abstract
- Graphical abstract
- Keywords
- 1. Introduction
- 2. Clarifying the terminology
- 3. State of the art
- 4. How smart is smart? A conceptual framework for
- 5. What are the barriers and challenges to advance
- 6. Conclusions
- Declaration of Competing Interest
- Acknowledgments
- References
- Show full outline
- Cited by (35)
- Figures (4)



Water Research
 Volume 218, 30 June 2022, 118409

Review

Moving to a future of smart stormwater management: A review and framework for terminology, research, and future perspectives

James L Webber^a, Tim Fletcher^b, Raziye Farmani^a, David Butler^a, Peter Melville-Shreeve

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<https://doi.org/10.1016/j.watres.2022.118409>

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Highlights

- "Smart stormwater" can realise coordinated catchment asset optimisation using IoT.

Recommended articles

Calibration-free approach to reactive real-time control of stormwater storages
 Journal of Hydrology, Volume 614, Part B, 2022, Article...
 Ruijie Liang, ..., Vinh Lam

A multi-objective risk management model for real-time flood control optimal...
 Journal of Hydrology, Volume 590, 2020, Article 125264
 Juan Chen, ..., William W.-G. Yeh

A simplified modeling approach for optimization of urban river systems
 Journal of Hydrology, Volume 623, 2023, Article 129689
 Wenwen Feng, ..., Hao Wang

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Article Metrics

Citations

Citation Indexes: 34

Captures

Readers: 115

45 Water Research

journal

3.596
 Q1

376

5. DCNAM: Automatic detection of pixel level fine crack using a densely connected network with attention mechanism

Author: Daniel Asefa Beyene, Huangrui, Kassahun Demissie Tola, Fitsum Emagnenehe Yigzew, Minsoo Park, Seunghee Park

Publication: Structures

Publisher: Elsevier

Date: October 2024

The screenshot shows the article page on ScienceDirect. The article title is "DCNAM: Automatic detection of pixel level fine crack using a densely connected network with attention mechanism" by Daniel Asefa Beyene, Huangrui, Kassahun Demissie Tola, Fitsum Emagnenehe Yigzew, Minsoo Park, and Seunghee Park. The journal is "Structures", Volume 68, October 2024, Article 107073. The page includes an abstract, a list of references, and a sidebar with recommended articles and article metrics. The article metrics show 128 citations, an h-index of 6, and an i10-index of 5. A bar chart shows the citation trend from 2019 to 2024. The article is available for full-text access.

Article preview

- Abstract
- Introduction
- Section snippets
- References (49)

Structures
Volume 68, October 2024, 107073

DCNAM: Automatic detection of pixel level fine crack using a densely connected network with attention mechanism

Daniel Asefa Beyene ^{a,1}, Huangrui ^{a,1}, Kassahun Demissie Tola ^b, Fitsum Emagnenehe Yigzew ^c, Minsoo Park ^d, Seunghee Park ^{a, c}

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<https://doi.org/10.1016/j.istruc.2024.107073> [Get rights and content](#)

Abstract

Deep-learning-based crack identification has emerged as a prominent research area in structural health monitoring. Although the detection of common cracks has been the predominant focus in previous studies, the identification of tiny cracks has often been neglected. Efficiently managing thin cracks is vital, because they can threaten the overall

Recommended articles

- Fragility assessment of RC bridge piers subjected to vehicle collision based on...
- Research on multi-apparent defects detection of concrete bridges based on...
- Shear strength of hybrid GFRP-stee reinforced concrete corbels without vertic...

Article Metrics

Captures
Readers: 1

Кассahun Demissie Tola
Researcher, [SungKyunkwan University](#)
Подтвержден адрес электронной почты в домене skku.edu - [Главная страница](#)
Structural Health Monitoring NDE

[СОЗДАТЬ СВОЙ ПРОФИЛЬ](#)

Процитировано

	Все	Начиная с 2019 г.
Статистика цитирования	128	128
h-индекс	6	6
i10-индекс	5	5

Общий доступ [ПРОСМОТРЕТЬ ВСЕ](#)

4 статьи недоступно | 47 статей доступно

6 Structures journal 0.964 Q1 54

Выводы

Проанализировав результаты поиска о проектировании умных городов, можно сделать следующие выводы. Выбранные статьи опубликованы в журналах с высокими рейтингом влияния IF и квартилем. Это указывает на то, что данные издания пользуются популярностью в научном сообществе, а тема актуальна на сегодняшний день. Все исследования, представленные в этих работах, важны полезны для современных специалистов в области проектирования умных городов.

Информации по теме в англоязычных источниках больше в несколько раз, чем в русскоязычных, что подтверждает востребованность на международном уровне. Тематика умных городов будет актуальна еще несколько десятков лет.

Общий вывод

Проектирование умных городов является актуальной и востребованной темой в современном мире. Высокий рейтинг публикаций и популярность среди международных исследовательских сообществ подчеркивают значимость изучений в этой области. Значительное количество англоязычных источников указывает на международную значимость темы и долгосрочную перспективу ее развития. Тематика умных городов останется важной на протяжении многих лет, требуя постоянного внимания и обновления со стороны научного сообщества.