Little-known stories about Springer–Nature
Part 2: Nano-thermo-calorimetry fest (or pest?)

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Online
March 22, 2021

How to spot a suspicious journal?

- The Golden Rule (tolerant version):

  A journal is probably suspicious if the geographic distribution of authors appears unexpectedly skewed, despite no obvious geographic attribution of the journal, or contrary to geographic self-attribution of the journal.

- The Golden Rule (racist version):

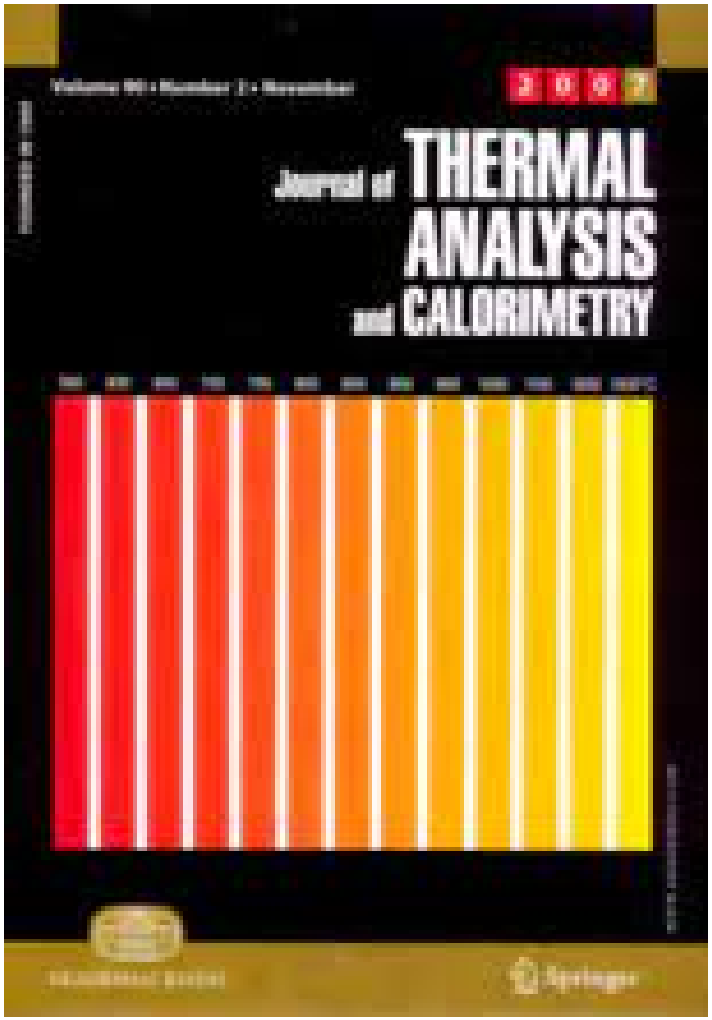
  A journal is definitely suspicious if it is overwhelmed by articles from Chinese and Iranian authors, while the journal itself does not claim any explicit attribution to China or Iran, or even claims some other geographic attribution.

The Golden Rule: Comments

- Aside from China and Iran, a good portion of articles in these "journals" may be coming from the following countries: India, Pakistan, Turkey, Arab Middle East / Arab Africa.
- The "rule" is one-sided: it alone is a good reason to raise a suspicion, but a journal not falling under the rule is not necessarily clean.

Journal of Thermal Analysis and Calorimetry

Turning to an example.



- Published by Springer Nature in cooperation with Akadémiai Kiadó (Hungary).
- Chief Editor: Imre M. Szilágyi (Budapest University of Technology and Economics, also known as BME / Budapest Műegyetem).
- 24 issues per year since 2019 (increased from 12 per year).

Top authors

Top 60 authors in 2019–2020
(with # articles published within that period):

Shang-Hao Liu 15	Mikhail A. Sheremet 7	Dénes Lőrinczy 6
M. Sheikholeslami 14	A. S. Dogonchi 7	Akbar Maleki 6
Davood Toghraie 14	Wei Wang 7	Omid Mahian 6
Ali J. Chamkha 13	Rasool Kalbasi 7	K. Anantha Kumar 5
Hakan F. Öztop 13	Rasul Mohebbi 7	R. Ellahi 5
Mohammad Hemmat Esfe 12	Yue-Fei Zhang 7	Xuelai Zhang 5
Fatih Selimefendigil 12	T. Hayat 7	Faramarz Hormozi 5
Tasawar Hayat 10	Mingyi Chen 6	Seyfolah Saedodin 5
Jun Deng 10	Yang Xiao 6	Asif Afzal 5
Amin Shahsavar 10	Chen-Rui Cao 6	Gabriela Vlase 5
Ahmad Shafee 9	Rasool Alizadeh 6	Yu-ichiro Izato 5
Taseer Muhammad 9	J. A. Esfahani 6	A. Arabkoohsar 5
Majid Siavashi 9	Eva Kuzielová 6	Jian Wang 5
Chi-Min Shu 8	M. Jafaryar 6	Asghar B. Rahimi 5
Nader Karimi 8	S. A. M. Mehryan 6	Hafiz Muhammad Ali 5
Saman Rashidi 8	T. V. Arjunan 6	Ruichao Wei 5
S. N. Kazi 8	Magdalena Rogulska 6	Shafqat Hussain 5
Zhi Wang 7	Yaning Zhang 6	Zhixiong Li 5
Masoud Afrand 7	Sara Rostami 6	Wei-Cheng Lin 5
M. Nawaz 7	M. Mohanraj 6	Imre Miklós Szilágyi 5

- **See the pattern?**
- The bulk is not much different from the top.

Journal highlights

- 2600+ articles in 2019–2020.
- IF = 2.7 in 2019, up from 2.4 in 2018.
- Lots of highly cited recent articles.

Combination of nanofluid and inserts for heat transfer enhancement
S Rashidi, M Eskandarian, O Mahian... - ... **Analysis and Calorimetry**, 2019 - Springer
Improving heat transfer is a critical subject for energy conservation systems which directly affects economic efficiency of these systems. There are active and passive methods which can be employed to enhance the rate of heat transfer without reducing the general efficiency ...
☆ Cited by 144 Related articles All 3 versions

Conjugate natural convection flow of Ag–MgO/water hybrid nanofluid in a square cavity
M Ghalambaz, A Doostani, E Izadpanahi... - ... **of Thermal Analysis and** ..., 2020 - Springer
The conjugate natural convection of a new type of hybrid nanofluid (Ag–MgO/water hybrid nanofluid) inside a square cavity is addressed. A thick layer of conductive solid is considered over the hot wall. The governing partial differential equations (PDEs) ...
☆ Cited by 99 Related articles

Numerical study on mixed convection of a non-Newtonian nanofluid with porous media in a two lid-driven square cavity
S Nazari, R Ellahi, MM Sarafraz, MR Safaei... - ... **of Thermal Analysis and** ..., 2020 - Springer
In the present numerical study, mixed flow of the non-Newtonian water/Al 2 O 3 nanofluid with 0–4% nanoparticles volume fractions (φ) inside a two-dimensional square cavity with hot and cold lid-driven motion and porous media is simulated at Richardson numbers (Ri) of ...
☆ Cited by 71 Related articles All 2 versions

Author highlights: Ali Jawad Chamkha

Ali J. Chamkha

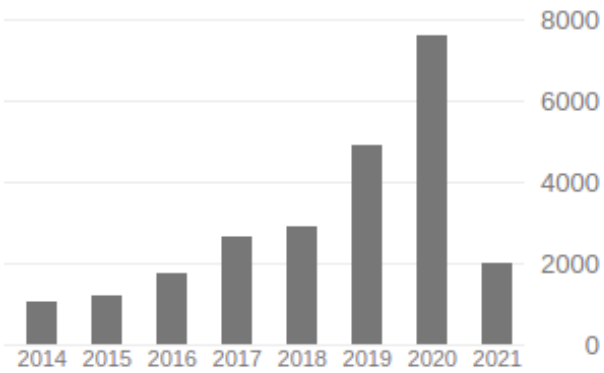
FOLLOW

Distinguished Professor and Dean of Engineering, Kuwait College of Science and Technology

Verified email at kcst.edu.kw - Homepage

Multiphase Flow Heat and Mass Transfer Porous Media Filtration Nanofluids

Cited by		VIEW ALL
	All	Since 2016
Citations	28274	22037
h-index	90	71
i10-index	567	505



- 13 publications in Journal of Thermal Analysis and Calorimetry between 2019–2020.
- Member of the Editorial Board.
- At least 4 current affiliations: Hanoi (VN), Da Nang (VN), Jeddah (SA), Doha (KW).
- Cited 28k+ times overall.
- 8k+ citations in 2020 alone.

Author highlights: Ali Jawad Chamkha

- Expert in university ranking systems.
- #21 in the world in the area of Mechanical engineering.

Triggers some thoughts!

An interested reader is invited to explore who exactly cites Ali J. Chamkha (using their favorite database and their own search skills).

Author highlights: Afrand, Toghraie & Karimipour

Young rising stars of magnetohydrodynamics:

Masoud Afrand

Department of Mechanical Engineering, Najafabad Branch, Islamic azad University
Verified email at pmc.iaun.ac.ir - Homepage

Magnetohydrodynamics CFD Nanofluids

Cited by	All	Since 2016
Citations	11624	11536
h-index	67	66
i10-index	197	197

Davood Toghraie

Associate Professor of Mechanical Engineering, Islamic Azad University, Khomeinishahr Branch
Verified email at iaukhsh.ac.ir

Heat Transfer Molecular Dynamics Simul… Fluid Mechanics

Cited by	All	Since 2016
Citations	11817	11680
h-index	68	65
i10-index	188	187

Arash Karimipour

Department of Mechanical Engineering, Najafabad Branch, Islamic azad University
Verified email at pmc.iaun.ac.ir - Homepage

Cited by	All	Since 2016
Citations	9515	9303
h-index	60	60
i10-index	148	147

Author highlights: Afrand, Toghraie & Karimipour

- Publication counts in Journal of Thermal Analysis and Calorimetry (2019–2020): Toghraie – 14, Afrand – 7, Karimipour — 3.
- Similar (and more than stellar) citation counts and h-indices.
- Scarce scientific activity before 2015, then skyrocketing bibliometry.
- Citation counts growing synchronously over time, despite they are sometimes co-authors and sometimes — not.

Author highlights: Mohsen Sheikholeslami

mohsen Sheikholeslami

FOLLOW

Unknown affiliation
No verified email

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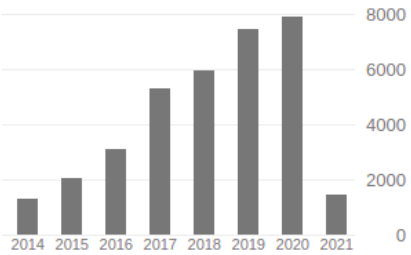
TITLE	CITED BY	YEAR
Effect of thermal radiation on magnetohydrodynamics nanofluid flow and heat transfer by means of two phase model M Sheikholeslami, DD Ganji, MY Javed, R Ellahi Journal of Magnetism and Magnetic Materials 374, 36-43	668	2015
Three dimensional mesoscopic simulation of magnetic field effect on natural convection of nanofluid M Sheikholeslami, R Ellahi International Journal of Heat and Mass Transfer 89, 799-808	483	2015
New computational approach for exergy and entropy analysis of nanofluid under the impact of Lorentz force through a porous media M Sheikholeslami Computer Methods in Applied Mechanics and Engineering 344, 319-333	402	2019
Simulation of MHD CuO–water nanofluid flow and convective heat transfer considering Lorentz forces M Sheikholeslami, MG Bandpy, R Ellahi, A Zeeshan Journal of Magnetism and Magnetic Materials 369, 69-80	355	2014

Cited by

	All	Since 2016
Citations	35116	31336
h-index	119	110
i10-index	355	351



- Publications in Journal of Thermal Analysis and Calorimetry (2019–2020): 14.
- **Trembling in awe?**

Author highlights: Mohsen Sheikholeslami

WHOOPS!

mohsen sheikholeslami retraction

About 17 results (**0.06** sec)

RETRACTED: MHD forced convection flow of nanofluid in a porous cavity with hot elliptic obstacle by means of Lattice Boltzmann method
M **Sheikholeslami**, T Hayat, T Muhammad, A Alsaedi - 2018 - Elsevier
The article duplicates significant parts of a paper that had already appeared in the Journal of Molecular Liquids 249 (2018) 941--948 https://doi. org/10.1016/j. molliq. 2017.10. 099. Also, Figure 2b of the article is similar with Figure 2 of the paper that was published by the first …
☆ Cited by 87 Related articles All 2 versions

RETRACTED: Free convection of CuO–H2O nanofluid in a curved porous enclosure using mesoscopic approach
M **Sheikholeslami**, HB Rokni - 2017 - Elsevier
acibyob Department of Mechanical and Materials Engineering, Tennessee Technological University, Cookeville, TN 38505, USA Article history: In this research, impact of magnetic field on CuOeH2O nanofluid free convection inside a curved porous cavity is reported …
☆ Cited by 43 Related articles All 4 versions

RETRACTED: Lattice Boltzmann Method for simulation of magnetic field effect on hydrothermal behavior of nanofluid in a cubic cavity
M **Sheikholeslami**, MG Bandpy, HR Ashorynejad - 2015 - Elsevier
The article duplicates significant parts of a paper that had already appeared in the Journal of Magnetism and Magnetic Materials 369 (2014) 69–80 http://dx. doi. org/10.1016/j. jmmm. 2014.06. 017. One of the conditions of submission of a paper for publication is that authors …
☆ Cited by 66 Related articles All 7 versions

RETRACTED: Numerical simulation of nanofluid forced convection heat transfer improvement in existence of magnetic field using lattice Boltzmann method
M **Sheikholeslami**, T Hayat, A Alsaedi - 2017 - Elsevier

Author highlights: Mohsen Sheikholeslami

Below are some **excerpts from the retraction announcements**. You cannot wish them to be more revealing!

- This article has been retracted at the request of the Editor-in-Chief as it appears that the integrity of the peer-review process can no longer be guaranteed. The Publisher detected post publication that one of the two review reports was provided for this article by the author Mohsen Sheikholeslami, whose name was not included in the authorship of the original submission by the author Houman B. Rokni.
- This article has been retracted at the request of the Editors-in-Chief.

  The article duplicates significant parts of a paper that had already appeared in the Journal of Molecular Liquids 249 (2018) 941–948 [. . .] Also, Figure 2b of the article is similar with Figure 2 of the paper that was published by the first author et al in Physica A 417 (2015) 273–286 [. . .]

  Moreover, the references [26]–[58] of this article were not requested by the handling Editors and reviewers and were added during the revision process without notifying the Editor and reviewers.

Article highlights: generic nanofluid stuff

Rostami, S., Toghraie, D., Shabani, B. et al. Measurement of the thermal conductivity of MWCNT-CuO/water hybrid nanofluid using artificial neural networks (ANNs). J Therm Anal Calorim 143, 10971105 (2021).

DOI: 10.1007/s10973-020-09458-5.

Details: https://pubpeer.com/publications/00CD6B321906D75593B2EE2CB127F1

- Data reused from an earlier paper — but a very different paper is cited as the source despite obvious irrelevance.
- Claims made about 60–65 Celsius regimes, but no hard data.
- Neural networks on 42 (or 36?) data points (2D input, 1D output) — is it legit? That includes test and validation sets.
- Also forgetting that the same neural networks are declared an inferior method in an earlier article by collaborating guys.
- And avoiding contradictory data from another collaborating group (much lower conductivities in similar conditions).

Prompts all kinds of questions about genuinity and reproducibility.

Article highlights: generic nanofluid stuff

And many other articles of two types:

- Type I. "Take" your favorite liquid and your favorite nanoparticle; "mix" them up; "measure" your favorite physical characteristic at a few concentration / temperature points.

How many combinations of liquid + nanoparticle + physical characteristic are there at our disposal?

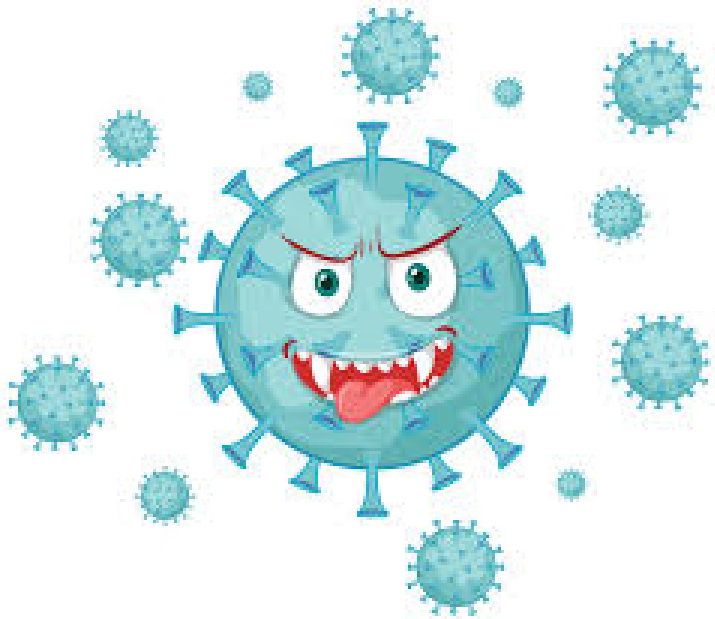
- Type II. "Design" a "ML model" based on the data of Type I article.

Article highlights: coronavirus

Malekahmadi, O., Zarei, A., Botlani Esfahani, M.B. et al. Thermal and hydrodynamic properties of coronavirus at various temperature and pressure via molecular dynamics approach. J Therm Anal Calorim 143, 28412850 (2021).
DOI: 10.1007/s10973-020-10353-2.

Details:

https://pubpeer.com/publications/AE8D0DBE005478ECC1A93B06C1C95F



Article highlights: coronavirus

Also (as in the previous example) a lot of opaqueness:

- Is there any relevance to an actual coronavirus? Or is it just an empty computational game? Or just a pretence that an empty computational game has been played?
- Why is there so much sulfur in the model but no hydrogen?
- 400 Kelvin, really? Any reason to study coronavirus at 127 Celsius with no account for chemical reactions?
- Reused images from a twin paper, although with rotations in 3D. That twin paper claims to study a different process.

Again, raising questions about genuinity and reproducibility.

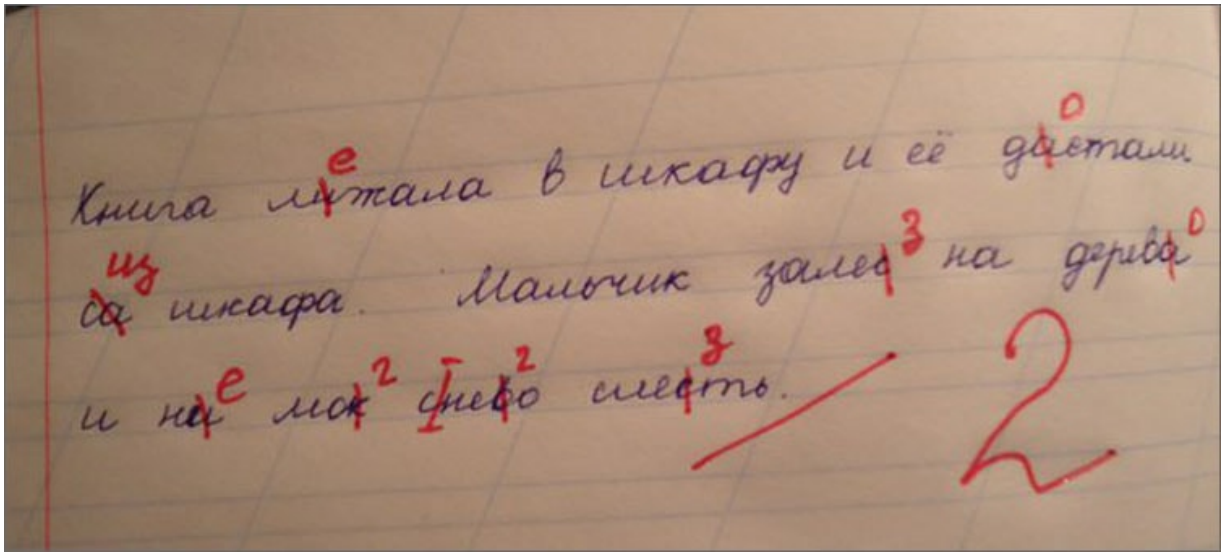
Article highlights: mega-correction

Le Ba, T., Mahian, O., Wongwises, S. et al. Correction to: Review on the recent progress in the preparation and stability of graphene-based nanofluids. J Therm Anal Calorim 142, 1173–1181 (2020). DOI: 10.1007/s10973-020-09881-8.

Details:

https://pubpeer.com/publications/E944514C81196B485DB6D323F7C2AB

The "correction" consists of 50 items!



Article highlights: mega-correction

Citing an anonymous PubPeer commenter (whose identity I do not know):

- Dear Editor-in-Chief and Co-author of the CORRECTED Review Paper above, The "Review Paper" referenced above has got republished with 50 corrections,

  where the manuscript was written by you, and apparently your PhD student (first author), and two of your journal's associate Editors (second and third authors) at the same time.

  It is noticeable that you should have written, evaluated, reviewed and EDITED your own manuscript, and as the Editor-in-Chief of your journal, YOU HAVE ACCEPTED that MANUSCRIPT FOR PUBLICATION in your own journal, and again, you have decided to republish it within 50 new corrections on just your Review Paper!

  Please clarify about any advantages of such papers for readers, and how people can trust the content and moral values of it? What is the real mission of an Editor-in-Chief responsible for a scientific journal?

Conclusion

- "Journal of Thermal Analysis and Calorimetry" may be a part of your university library's bundle deal with Springer, and thus cost money to your university.
- Or researchers may use public money to pay open access fees in that journal.

You may not care about money going that way. Or you may care.

Thank you!

Thank you for reading!