*Article*

# Full title of the paper (Capitalized)

**Dominik Leutnant[1,2,‡,*], John Doe[2,†,‡]**

[1] Muenster University of Applied Sciences - Institute for Infrastructure, Water, Resources, Environment Correnstr. 25, 48149 Muenster, Germany; leutnant@fh-muenster.de
[2] Your department Street, City, Country; mail@mail.com
* Correspondence: leutnant@fh-muenster.de; Tel.: +XX-000-00-0000.
† Current address: Updated affiliation
‡ These authors contributed equally to this work.

**Simple Summary:** A Simple summary goes here.

**Abstract:** A single paragraph of about 200 words maximum. For research articles, abstracts should give a pertinent overview of the work. We strongly encourage authors to use the following style of structured abstracts, but without headings: 1) Background: Place the question addressed in a broad context and highlight the purpose of the study; 2) Methods: Describe briefly the main methods or treatments applied; 3) Results: Summarize the article's main findings; and 4) Conclusion: Indicate the main conclusions or interpretations. The abstract should be an objective representation of the article, it must not contain results which are not presented and substantiated in the main text and should not exaggerate the main conclusions.

**Keywords:** keyword 1; keyword 2; keyword 3 (list three to ten pertinent keywords specific to the article, yet reasonably common within the subject discipline.).

## 1. Version

This Rmd-skeleton uses the mdpi Latex template published 2023-03-25. However, the official template gets more frequently updated than the **rticles** package. Therefore, please make sure prior to paper submission, that you're using the most recent .cls, .tex and .bst files (available here).

## 2. Article Header Information

The YAML header includes information needed mainly for formatting the front and back matter of the article. Required elements include:

```
title: Title of the paper
author:
  - name: first and last name
    affil: |
      One or more comma seperated numbers corresponding to affilitation
      and one or more  comma seperated symbols corresponding
      optional notes.
    orcid: optional orcid number
affiliation:
  - num: 1,..., n for each affiliation
    address: required
    email: required
authorcitation: |
  Lastname, F.
correspondence: |
```

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**Table 1.** MDPI article types.

| | | |
|---|---|---|
| abstract | entry | retraction |
| addendum | expressionofconcern | review |
| article | extendedabstract | perspective |
| book | datadescriptor | protocol |
| bookreview | editorial | shortnote |
| briefreport | essay | studyprotocol |
| casereport | erratum | systematicreview |
| comment | hypothesis | supfile |
| commentary | interestingimage | technicalnote |
| communication | obituary | viewpoint |
| conferenceproceedings | opinion | guidelines |
| correction | projectreport | registeredreport |
| conferencereport | reply | tutorial |

```
  email@email.com; Tel.: +XX-000-00-0000.
journal: notspecified
type: article
status: submit
```

Journal options are in Table 2. The `status` variable should generally not be changed by authors. The `type` variable describes the type of of submission and defaults to `article` but can be replaced with any of the ones in Table 1

### 2.1. Journal Specific YAML variables

```
# for journal Diversity,
# add the Life Science Identifier using:
lsid: http://zoobank.org/urn:lsid:zoobank.org:act:nnnn


# for journal Applied Sciences
# add featured application
featuredapplication: |
  Authors are encouraged to provide a concise
  description of the specific application or
  a potential application of the work. This
  section is not mandatory.

# for the journal Data
# add dataset doi and license
dataset: https://doi.org/10.1000/182
datasetlicense: CC-BY-4.0

# for the journal Toxins
# add key contributions
keycontributions: |
  The breakthroughs or highlights of the manuscript.
  Authors can write one or two sentences to describe
  the most important part of the paper.

# for the journal Encyclopedia
encyclopediadef: |
```

```
  For entry manuscripts only: please provide a brief overview
  of the entry title instead of an abstract.
entrylink: The Link to this entry published on the encyclopedia platform.

# for the journal Advances in Respiratory Medicine
# add highlights
addhighlights: |
  This is an obligatory section in ‘‘Advances in Respiratory Medicine’’,
  whose goal is to increase the discoverability and readability of the
  article via search engines and other scholars. Highlights should not
  be a copy of the abstract, but a simple text allowing the reader to
  quickly and simplified find out what the article is about and what can
  be cited from it. Each of these parts should be devoted up to 2~bullet
  points.
```

**Table 2.** MDPI journal names.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| acoustics | biomedinformatics | dentistry | galaxies | jcp | metabolites | philosophies | socsci |
| actuators | biomimetics | dermato | games | jcs | metals | photochem | software |
| addictions | biomolecules | dermatopathology | gases | jcto | meteorology | photonics | soilsystems |
| admsci | biophysica | designs | gastroent | jdb | methane | phycology | solar |
| adolescents | biosensors | devices | gastrointestdisord | jeta | metrology | physchem | solids |
| aerobiology | biotech | diabetology | gels | jfb | micro | physics | spectroscj |
| aerospace | birds | diagnostics | genealogy | jfmk | microarrays | physiologia | sports |
| agriculture | bloods | dietetics | genes | jimaging | microbiolres | plants | standards |
| agriengineering | blsf | digital | geographies | jintelligence | micromachines | plasma | stats |
| agrochemicals | brainsci | disabilities | geohazards | jlpea | microorganisms | platforms | std |
| agronomy | breath | diseases | geomatics | jmmp | microplastics | pollutants | stresses |
| ai | buildings | diversity | geosciences | jmp | minerals | polymers | surfaces |
| air | businesses | dna | geotechnics | jmse | mining | polysaccharides | surgeries |
| algorithms | cancers | drones | geriatrics | jne | modelling | poultry | suschem |
| allergies | carbon | dynamics | grasses | jnt | molbank | powders | sustainability |
| alloys | cardiogenetics | earth | gucdd | jof | molecules | preprints | symmetry |
| analytica | catalysts | ebj | hazardousmatters | joitmc | mps | proceedings | synbio |
| analytics | cells | ecologies | healthcare | jor | msf | processes | systems |
| anatomia | ceramics | econometrics | hearts | journalmedia | mti | prosthesis | targets |
| animals | challenges | economies | hemato | jox | muscles | proteomes | taxonomy |
| antibiotics | chemengineering | education | hematolrep | jpm | nanoenergyadv | psf | technologies |
| antibodies | chemistry | ejihpe | heritage | jrfm | nanomanufacturing | psych | telecom |
| antioxidants | chemosensors | electricity | higheredu | jsan | nanomaterials | psychiatryint | test |
| applbiosci | chemproc | electrochem | highthroughput | jtaer | ncrna | psychoactives | textiles |
| appliedchem | children | electronicmat | histories | jvd | ndt | publications | thalassrep |
| appliedmath | chips | electronics | horticulturae | jzbg | network | quantumrep | thermo |
| applmech | cimb | encyclopedia | hospitals | kidneydial | neuroglia | quaternary | tomography |
| applmicrobiol | civileng | endocrines | humanities | kinasesphosphatases | neurolint | qubs | tourismhosp |
| applnano | cleantechnol | energies | humans | knowledge | neurosci | radiation | toxics |
| applsci | climate | eng | hydrobiology | land | nitrogen | reactions | toxins |
| aquacj | clinpract | engproc | hydrogen | languages | notspecified | receptors | transplantology |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| architecture | clockssleep | entomology | hydrology | laws | nri | recycling | transportation |
| arm | cmd | entropy | hygiene | life | nursrep | regeneration | traumacare |
| arthropoda | coasts | environments | idr | liquids | nutraceuticals | religions | traumas |
| arts | coatings | environsciproc | ijerph | literature | nutrients | remotesensing | tropicalmed |
| asc | colloids | epidemiologia | ijfs | livers | obesities | reports | universe |
| asi | colorants | epigenomes | ijgi | logics | oceans | reprodmed | urbansci |
| astronomy | commodities | est | ijms | logistics | ohbm | resources | uro |
| atmosphere | compounds | fermentation | ijns | lubricants | onco | rheumato | vaccines |
| atoms | computation | fibers | ijpb | lymphatics | oncopathology | risks | vehicles |
| audiolres | computers | fintech | ijtm | machines | optics | robotics | venereology |
| automation | condensedmatter | fire | ijtpp | macromol | oral | ruminants | vetsci |
| axioms | conservation | fishes | ime | magnetism | organics | safety | vibration |
| bacteria | constrmater | fluids | immuno | magnetochemistry | organoids | sci | virtualworlds |
| batteries | cosmetics | foods | informatics | make | osteology | scipharm | viruses |
| bdcc | covid | forecasting | information | marinedrugs | oxygen | sclerosis | vision |
| behavsci | crops | forensicsci | infrastructures | materials | parasites | seeds | waste |
| beverages | cryptography | forests | inorganics | materproc | parasitologia | sensors | water |
| biochem | crystals | foundations | insects | mathematics | particles | separations | wem |
| bioengineering | csmf | fractalfract | instruments | mca | pathogens | sexes | wevj |
| biologics | ctn | fuels | inventions | measurements | pathophysiology | signals | wind |
| biology | curroncol | future | iot | medicina | pediatrrep | sinusitis | women |
| biomass | cyber | futureinternet | j | medicines | pharmaceuticals | skins | world |
| biomechanics | dairy | futurepharmacol | jal | medsci | pharmaceutics | smartcities | youth |
| biomed | data | futurephys | jcdd | membranes | pharmacoepidemiology | sna | zoonoticdis |
| biomedicines | ddc | futuretransp | jcm | merits | pharmacy | societies | |

## 3. Introduction

The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance. The current state of the research field should be reviewed carefully and key publications cited. Please highlight controversial and diverging hypotheses when necessary. Finally, briefly mention the main aim of the work and highlight the principal conclusions. As far as possible, please keep the introduction comprehensible to scientists outside your particular field of research. Citing a journal paper [1,2]. And now citing a book reference Gujer [3]. Some MDPI journals use Chicago and others use APA, this template should choose the correct citation format for you once you specify the journal in the YAML header.

To use endnotes, change `endnotes: true` in the YAML header, then use `\endnote{This is an endnote.}`.

## 4. Materials and Methods

Materials and Methods should be described with sufficient details to allow others to replicate and build on published results. Please note that publication of your manuscript implicates that you must make all materials, data, computer code, and protocols associated with the publication available to readers. Please disclose at the submission stage any restrictions on the availability of materials or information. New methods and protocols should be described in detail while well-established methods can be briefly described and appropriately cited.

Research manuscripts reporting large datasets that are deposited in a publicly available database should specify where the data have been deposited and provide the relevant accession numbers. If the accession numbers have not yet been obtained at the time of submission, please state that they will be provided during review. They must be provided prior to publication.

Interventionary studies involving animals or humans, and other studies require ethical approval must list the authority that provided approval and the corresponding ethical approval code.

## 5. Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

### *5.1. Subsection Heading Here*

Subsection text here.

#### 5.1.1. Subsubsection Heading Here

Bulleted lists look like this:

- First bullet
- Second bullet
- Third bullet

Numbered lists can be added as follows:

1. First item
2. Second item
3. Third item

The text continues here.

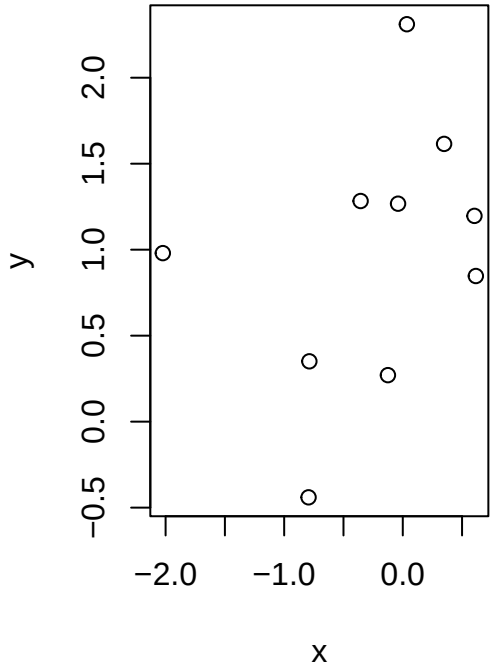


**Figure 1.** A figure added with a code chunk.

### *5.2. Figures, Tables and Schemes*

All figures and tables should be cited in the main text as Figure 1, 3, etc. To get cross-reference to figure generated by R chunks include the `\\label{}` tag in the `fig.cap` attribute of the R chunk: `fig.cap = "Fancy Caption\\label{fig:plot}"`.

When making tables using `kable`, it is suggested to use the `format="latex"` and `tabl.envir="table"` arguments to ensure table numbering and compatibility with the mdpi document class.

**Table 3.** This is a table caption. Tables should be placed in the main text near to the first time they are cited.

| | mpg | cyl | disp |
|---|---|---|---|
| Mazda RX4 | 21.0 | 6 | 160 |
| Mazda RX4 Wag | 21.0 | 6 | 160 |
| Datsun 710 | 22.8 | 4 | 108 |
| Hornet 4 Drive | 21.4 | 6 | 258 |
| Hornet Sportabout | 18.7 | 8 | 360 |

For a very wide table, landscape layouts are allowed.

**Table 4.** This is a very wide table

| Title.1 | Title.2 | Title.3 | Title.4 |
|---|---|---|---|
| Entry 1 | Data | Data | This cell has some longer content that runs over two lines |
| Entry 2 | Data | Data | Data |

### 5.3. Formatting of Mathematical Components

This is an example of an equation:

$$a = 1.$$

If you want numbered equations use Latex and wrap in the equation environment:

$$a = 1, \tag{1}$$

the text following an equation need not be a new paragraph. Please punctuate equations as regular text.

This is the example 2 of equation:

$$a = b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t + u + v + w + x + y + z \tag{2}$$

Theorem-type environments (including propositions, lemmas, corollaries etc.) can be formatted as follows:

Example of a theorem:

**Theorem 1.** *Example text of a theorem*

The text continues here. Proofs must be formatted as follows:

Example of a proof:

**Proof of Theorem1.** Text of the proof. Note that the phrase "of Theorem 1'' is optional if it is clear which theorem is being referred to.

□

The text continues here.

## 6. Discussion

Authors should discuss the results and how they can be interpreted in perspective of previous studies and of the working hypotheses. The findings and their implications should be discussed in the broadest context possible. Future research directions may also be highlighted.

## 7. Conclusion

This section is not mandatory, but can be added to the manuscript if the discussion is unusually long or complex.

## 8. Patents

This section is not mandatory, but may be added if there are patents resulting from the work reported in this manuscript.

**Supplementary Materials:** The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/1010000/s1, Figure S1: title; Table S1: title; Video S1: title.

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## Abbreviations

The following abbreviations are used in this manuscript:

| | |
|---|---|
| MDPI | Multidisciplinary Digital Publishing Institute |
| DOAJ | Directory of open access journals |
| TLA | Three letter acronym |
| LD | linear dichroism |

## Appendix I

### *Appendix I.1*

The appendix is an optional section that can contain details and data supplemental to the main text. For example, explanations of experimental details that would disrupt the flow of the main text, but nonetheless remain crucial to understanding and reproducing the research shown; figures of replicates for experiments of which representative data is shown in the main text can be added here if brief, or as Supplementary data. Mathematical proofs of results not central to the paper can be added as an appendix.

## Appendix J

All appendix sections must be cited in the main text. In the appendixes, Figures, Tables, etc. should be labeled starting with 'A', e.g., Figure A1, Figure A2, etc.

## References

1. Bertrand-Krajewski, J.L.; Chebbo, G.; Saget, A. Distribution of pollutant mass vs volume in stormwater discharges and the first flush phenomenon. *Water Research* **1998**, *32*, 2341–2356.
2. Leutnant, D.; Muschalla, D.; Uhl, M. Stormwater Pollutant Process Analysis with Long-Term Online Monitoring Data at Micro-Scale Sites. *Water* **2016**, *8*, 299. 00000, https://doi.org/10.3390/w8070299.
3. Gujer, W. *Systems Analysis for Water Technology*; Springer-Verlag: Berlin, Heidelberg, Germany, 2008.

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