**Authors' Declaration Form**

*Journal of ZhengZhou University (Engineering Science)* adheres to the standards set forth by the Committee on Publication Ethics (COPE) and requires all authors to disclose their individual contributions and potential conflicts of interest related to the manuscript.

1. **Article Title：**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Author Contribution Statement:** Please indicate below the specific contributions of each author to this article and research (e.g., proposing research ideas and designing research, collecting research data, analyzing and interpreting research data, drafting articles, making critical revisions of important content, reviewing the final submitted version, etc.).
3. **Conflict of Interest Statement:** Please indicate below all potential conflicts of interest related to this article, including financial conflicts of interest (such as financial support, travel support, gifts, etc. from any company related to the authors' research interests), non-financial conflicts of interest (such as data collection, provision of instruments, software, or drugs by any related company, collaborations with related companies, ownership of shares in related companies, etc.), and any other interests that the authors believe may affect the objectivity of the article. If there are no conflicts of interest, please state "None".

This form is made in duplicate, one copy to be kept by the author and one copy to be kept by the Editorial Office of *Journal of ZhengZhou University (Engineering Science)*, and is effective from the date of the author's signature. The signing author promises can represent co-authors who have not signed this agreement.

 **Signed by:**

Date of signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_