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| Journal Name: | [**Advances in Research**](https://journalair.com/index.php/AIR/index) |
| Manuscript Number: | **Ms\_AIR\_136419** |
| Title of the Manuscript: | **A Formal Framework for Molecular Interaction Hyper Networks and Molecular Interaction Super Hyper Networks** |
| Type of the Article | **Original Research Article** |

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | The manuscript presents a new mathematical framework for Molecular Interaction HyperNetworks and SuperHyperNetworks which provides advanced modeling capabilities for complex biochemical systems. The hierarchical method shows great potential for conducting multi-scale biological investigations. Well done authors. | Many Thanks. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | Yes | Many Thanks. |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | Yes, but kindly write abstract in just one paragraph, as currently its in two. | Many Thanks. |
| Is the manuscript scientifically, correct? Please write here. | Yes, the research combines graph theory with biochemistry and systems biology concepts to create a valuable resource for scientists working in these fields. The paper extends its potential impact through its discussion of future extensions including fuzzy sets. | Many Thanks. |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Some in-text citations use semicolons (e.g., [23; 24]). Standardize to commas (e.g., [23, 24]). Kindly follow the journal citation style | Thank you for your valuable comments. I will address them during the editing process. |
| Is the language/English quality of the article suitable for scholarly communications? | Yes. | Many Thanks. |
| Optional/General comments | The proposal to integrate uncertainty frameworks (e.g., neutrosophic sets) is compelling. The addition of specific biochemical use cases for these extensions would enhance this section. But I suggest to kindly expand the conclusion section. Instead of just mentioning the citation number, like: Vague Sets [5,47], you may mention M Akram et. al (2014) shows such finding for Vague sets. It will add more credibility to the conclusion. Congratulation Authors for great work.  **Can be accepted after minor revision** | Many Thanks. I will address them during the editing process. |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s Feedback** (It is mandatory that authors should write his/her feedback here) |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* | Many Thanks. |