

Review Form 2

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|--------------------------|-----------------------------------------------------------------------------------------------------------|
| Book Name:               | Science and Technology - Recent Updates and Future Prospects                                              |
| Manuscript Number:       | Ms_BPR_2163                                                                                               |
| Title of the Manuscript: | Optimizing Custom Orthopedic Implants: A Generative Design Approach in the Medical Manufacturing Industry |
| Type of the Article      | Book chapter                                                                                              |

PART 1: Review Comments

| Compulsory REVISION comments                                                                                                                                                                                                          | Reviewer's comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. 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. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.                        | The work investigates the peculiarities of additive manufacturing (AM) in producing thin struts for orthopedic prostheses, emphasizing the morphological and mechanical behavior of the final products.The field of medical manufacturing has undergone significant transformation in recent decades, driven by technological innovations that have revolutionized the production of Orthopedic implants and other medical devices. Artificial Intelligence (AI) and Machine Learning (ML) are increasingly being applied to optimize manufacturing processes. These technologies can predict and prevent equipment failures, optimize production schedules, and even suggest design improvements based on manufacturing data                                                                                       |                                                                                                                                                              |
| Is the title of the article suitable?<br>(If not please suggest an alternative title)                                                                                                                                                 | The title is in according with the text.<br>The figures are specific and well integrated in the text.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                              |
| 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.                                                                           | The abstract is in according with the text, maybe shorter than normal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                              |
| Are subsections and structure of the manuscript appropriate?                                                                                                                                                                          | The text is divided into specific parts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                              |
| Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part. | I believe that the text provides scientific work, enough to maintain open this area of interests. The proposed spline scanning generative design (SS-GD) method aims to address the challenges of additive manufacturing (AM) related to handling intricate free-form shapes with fine details. This novel method leverages spline patterns to construct smooth, direct toolpaths, facilitating seamless curved printing. It significantly reduces computational demands while maintaining high precision through spline control points. The integration of Machine Learning (ML) into generative design processes has significantly enhanced the capabilities of computational tools in Orthopedic implant development. This technology marks a significant advancement in the development of orthopedic implants. |                                                                                                                                                              |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.<br>:-                                                                                             | The references are updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                              |

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| Minor REVISION comments<br><br>Is the language/English quality of the article suitable for scholarly communications? | English is good.                                   |  |
| Optional/General comments                                                                                            | The book chapter should be published in this form. |  |

PART 2:

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|----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | Reviewer's comment                                                    | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. 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) |                                                                                                                                                                               |

Reviewer Details:

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|----------------------------------|---------------------------------------------------------------------|
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| Department, University & Country | Timisoara Victor Babes University of Medicine and Pharmacy, Romania |