**Manuscript Reviewer Response**

**Editor #1:**

*Our senior BB editor told us earlier that it is required to have biosensor in the article.  See his earlier information provided to guest editors.*

*“****First of all is should be about “biosensors”.****It means the sensor only composed of physiological sensors are not considered as “biosensors” in this journal. There have been a long discussion, which we do not arrive in the conclusion, and our role is not provide any exceptional definition for biosensors in this special issue. However, as you saw in 2.innovative technologies, method and novel integrated devices will be considered which may compensate or even overwhelm the conventional biosensor principle based sensing, or as the integrated devices with the combination of “biosensors” and physiological sensors to provide useful information which cannot be acquired either of the principle, alone.”*

*I like your paper and moved it forward. I feel maybe during your revision, you can add some content on their defined ‘biosensors’ in the review?*

**Our Response:**

We thank the reviewer for the valuable comments and assessment of this review article.

**Our Modification to the Manuscript:**

We have added a paragraph in the manuscript to comment on existing wearable sensor gloves that have biosensors implemented on them. This paragraph comments on the possibility to use biosensors with sensory feedback devices. The additional paragraph was added in the section of the manuscript.

However, sensory impaired individuals need a device to transfer the sensory information from their hands to another body part

**Reviewer #1:**

*“General Comment: In this work, the authors have summarized recent progress of WSGs and SFDs for rehabilitation and prostheses. This review article has focused on the technologies used to develop a wearable sensing glove and a sensory feedback device. Besides, figures and tables in the review are impressive. However, the manuscript lacks sufficient details, and a few major concerns need to be addressed before it could be considered for publication.”*

**Our Response:**

We thank the reviewer for the valuable comments and assessment of this review article.

**Comment #1:**

*The abstract is confusing, please revise the abstract to make it more focused and complete.*

**Our Response:**

We have modified to the abstract to make it more focused and complete.

**Our Modification to the Manuscript:**

**Comment #2:**

*Please consult and cite relevant references to make a clear definition and explanation of WSG.*

**Our Response:**

We have added a sentence to the first paragraph in the introduction to address this discrepancy and provide more clarity.

**Our Modification to the Manuscript:**

A WSG is defined as a “glove-based system as a system composed of an array of sensors, electronics for data acquisition and processing, power supply, and a support for the sensors that can be worn on the user’s hand (dipietro et al. 2008).”

**Comment #3:**

*Figure 1 is beautiful and impressive, but there is no specific explanation or description of its meaning in the manuscript.*

**Our Response:**

We have modified the introduction to describe the relevance of figure #1.

**Comment #4:**

*How strain, pressure and temperature sensors are integrated with gloves? Please elaborate, it is important for WSGs and people are also concerned about this issue.*

**Our Response:**

sdss

**Comment #5:**

*Since this review article focuses on the technology used to develop strain, pressure and temperature sensors, the working principle of the sensor, signal output form, etc. should all be explained in detail.*

**Our Response:**

**Comment #6:**

*The various sensors listed in each section should be further classified, rather than simple temperature, strain and pressure sensors. This can help readers to read and understand better.*

**Our Response:**

**Comment #7:**

*The author introduces recent progress of WSGs and SFDs. Please briefly introduce some examples of the combined application of wearable induction gloves and sensory feedback devices in the article, so as to make the manuscript more complete.*

**Our Response:**

**Comment #8:**

*When introducing the latest technology of WSGs and SFDs, it is necessary to provide your own opinions and perspective, rather than simply listing the literature.*

**Our Response:**

**Reviewer #2:**

*“The authors systematically report recent advances in wearable biosensing gloves and sensory feedback devices in this review, and more specifically, it carries out the details of materials and mechanical structure to develop temperature, strain and pressure sensors that used in such systems, which have positive potentials in healthcare applications.”*

**Our Response:**

We thank the reviewer for the valuable comments and assessment of this review article.

**Comment #1:**

*In section 2.4.1, several examples of strain sensors were mentioned. Some directly related literatures may be cited to enrich the description. (e.g. Nature volume 587, pages 219-224 (2020), although the application demonstrated in this article was a sleeve, the anisotropically resistive mechanism was a good approach to achieve high gauge factors; Sci. Adv. 2021; 7 : eabe3778, the crease amplification effect described in this article can amplify the output signal of integrated strain sensors by three times, and it can be conformal and sticky to the hand, not as it stated in section 2.5).*

**Our Response:**

**Comment #2:**

*Silica-based distributed fiber-optic sensor (DFOS) (Bai et al., Science 370, 848-852 (2020)) is an approach to provide feedback from external environment. How do authors compare it with three modes mentioned in section 3?*

**Our Response:**

**Comment #3:**

*Also, some related literatures may be cited for further discussion in section 3.2 and 3.3 regarding the relationship between biosystems design and mechanoreceptors, which provide us the sense of touch (e.g Nature volume 575, pages 473-479 (2019); Zhu et al., Sci. Adv. 2020; 6 : eaaz8693; Science volume 370, issue 6518, 768-769 (2020)).*

**Our Response:**

**Reviewer #3:**

*“This paper reviewed recent advances in wearable gloves especially with sensory feedback systems, including their applications in healthcare, prosthetics, robotics and virtual reality. The paper is overall well-written and provides insights into future development of future wearable glove-based devices. The paper is recommended for publication.”*

**Our Response:**

We thank the reviewer for the valuable comments and assessment of this review article.

**Comment #1:**

*The authors are recommended to briefly compare the biocompatibility, performance and stability of breathable materials used for wearable gloves. What materials is more preferred when it comes to long-term wearing?*

**Our Response:**

**Comment #2:**

*On Page 4, introduction, there is a typo in the sentence "from their hands to them another body part", should be "their other body part".*

**Our Response:**

We appreciate the reviewer pointing out the grammatical error. We changed the language in the manuscript to add clarity.

**Our Modification to the Manuscript:**

We have modified the below sentence in the second paragraph of the Introduction (Section 1).

However, sensory impaired individuals need a device to transfer the sensory information from their hands to another body part.

**Comment #3:**

*The authors discussed different sensors and technologies for device integration in Figure 1. It may be meaningful to briefly summarize the current power sources of these wearable gloves. Are they mostly wire connected to an external power source, or uses portable batteries or wirelessly powered?*

**Our Response:**

**Comment #4:**

*In section 2.4. Research-based WSGs, the authors have mentioned several strain, pressure, and temperature sensors for wearable sensing gloves. It is recommended that the authors discuss more wearable gloves for biosensing applications especially biochemical sensing, such as monitoring metabolites in sweat. Some other prosthetic and healthcare applications such as wearables for human-machine interfaces may also be useful.*

**Our Response:**

**Comment #5:**

*For sensory feedback devices, what are the advantages and drawbacks of the three major feedback modes? It is recommended to briefly introduce their preferred application respectively.*

**Our Response:**