



4

# Doctors Became Gods in Pandemic

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As we know during this pandemic situation the doctor's are dealing like a god for us. They are doing their god level work to save us day and night and due to this they are going through really extreme conditions they have to stay from their family and friends and also they have to wear masks, PPE kits all the time which make their living more difficult because those PPE kits are not only heavy but also after wearing it, the inside temperature is also unbearable but doctors has to deal with it and we salute them for this efforts.

## Keywords

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- Corona
- Doctors
- COVID
- Water

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## Introduction

The doctors need to wear those substantial and warmed PPE units for their security which makes their living exceptionally boisterous and inconvenience capable, so to deliver some warmth from those PPE packs we thought of the plan to decrease the warmth inside the PPE units utilizing peltier impact. Right when an electric stream is experienced a circuit of a thermocouple, heat is progressed at one convergence and acclimatized at the other crossing point. This is known as the Peltier Effect. It is named after French physicist Jean Charles Athanase Peltier, who found it in

1834. So, we will use this technology to make the PPE kits comfortable for doctors.

## Objective

As we all know that during this pandemic situation our health workers are working very hard to keep us safe and for that they have to face very extreme conditions like working in extreme temperatures while wearing safety equipment like PPE kits, which makes their work very hectic and difficult. So just to provide some assistance to them and to make their working environment little favorable for them we are making a device that will reduce their body temperature.

We are integrating a thermocouple-based cooling device within the PPE kit which will reduce the temperature inside the PPE kit by extracting the heat using our thermocouple device.

## Literature Review

- In conventional works the engineers are trying to make the PPE kits as thin as they can but with the reduction in the thickness of the kits the safety becomes inversely affected.
- In another technology the engineers tried to insert an exhaust fan in the back of the PPE kits which is very heavy and also there is a risk of cross contamination.

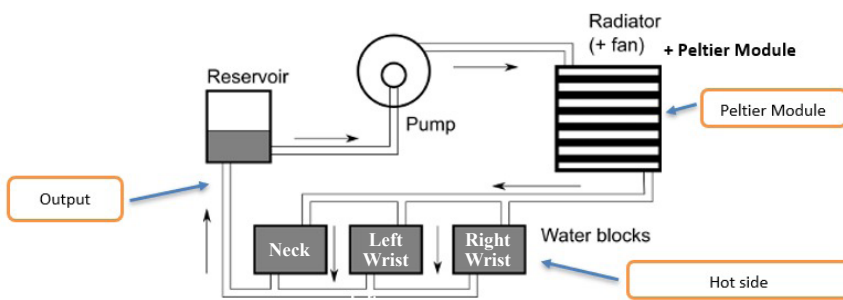


Fig 1. Model of small-scale Prototype

### Proposed Model

Our model involves placing large water blocks, directly on the body parts where arteries are closer to the skin (like neck, wrists) so that we can extract the heat from the arteries and effectively cool the body by cooling the blood.

We also have a central water-cooling radiator which will circulate the cold water to the water blocks using the Peltier module and water pump. A network of inlet and outlet pipes will distribute the water to and from the radiator.

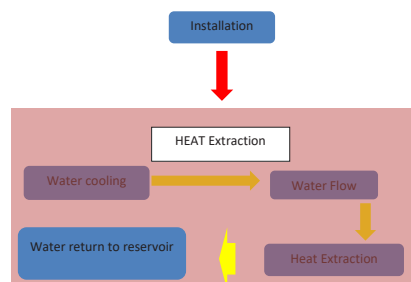


Fig 2. Block Diagram

### Working Process

#### Step 1: Water cooling (By the radiator)

This process is the beginning of our device' working in this step, we are cooling the water using the radiator and peltier module.

#### Step 2: Water Flow

The water which is cooled by the radiator and peltier module is sent to the water blocks using pumps and the pipelines to cool the arteries.

#### Step 3: Heat Extraction

Once the cold water reaches the water blocks it extracts the heat from the arteries and transfers the heat from the arteries to the water.

#### Step 4: Water return to reservoir

Now as the water becomes warm due to the heat extraction, it is sent back to the radiator to be cooled again.

And this cycle will get repeated continuously.

### Conclusion

As we can see the technology of **Peltier** effect is mainly used in the area of cooling electronic components and small instruments like PCs. But here we used this technology to extract the body heat from arteries using water-blocks and radiators.



**Sara Shree** is a first year student. Pursuing Bachelor in Computer Application from Amity University (Noida). She is having a great leadership quality with multitasking skills. Serving as President of the Cultural club, she has spectacular insight to lead. She is having great interest in new and trending technologies. Blockchain, Big Data, Data Science, Machine Learning are some of the new technologies she recently learned about. She is a Food Blogger showcasing innovative Food ideas. Her mother is her inspiration as well as her role model. Quote of her life is "Action speaks louder than your words".

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## Annexure I

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## Reviewers Comment

**Reviewer's Comment 1:** The author in this paper addresses the piety of the doctors who are working hard to manage the pandemic.

**Reviewer's Comment 2:** The author has proposed to make a device that would reduce the scorching temperatures of PPE kits worn by health care workers. The paper has been drafted systematically with an abstract, introduction, objectives, and review of the literature. The author then moves on to present how the proposed model would work with the help of diagrams and charts.

**Reviewer's Comment 3:** The author further explains the whole process step by step and draws a conclusion on how his proposed technique could be helpful in these resilient and uncertain times.



## Editorial Excerpt

The article has 8% plagiarism which is an acceptable percentage for publication. The comments related to this manuscript are noticeable related to Doctors Became Gods in Pandemic both subject-wise and research-wise. This pandemic is being difficult for everyone. But doctors are doing an exceptionally good job by working day & night and saving lives. They need to wear masks and PPE kits every time. The author has proposed to make a device that would reduce the scorching temperatures of PPE kits worn by health care workers. It has been earmarked and finalized under the "Research Thought" category.

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Disclaimer 

All Views expressed in this paper are my own, which some of the content are taken from open source websites for the knowledge purpose. Those some of I have mentioned above in references section.



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