In this study and the development of auto tuning control in a perfusion System for Extracorporeal Membrane Oxygenation (ECMO) support is described. ECMO is a temporary life support system used for patients who\'s Heart or Lungs is not working properly. This system must be managed by a Perfusionist to maintain proper blood flow and blood pressure to the patient. In this paper, the control of blood-gas process of an ECMO system is modeled in a detailed approach in MATLAB Scripts. Experimental results show a good agreement in static and frequency domain measurements.

References

Index Terms

Computer Science

Applied Sciences

Keywords

Extracorporeal Membrane Oxygenation (ECMO) cardio Pulmonary Blood Gases (CPB)
partial Oxygen (pO2)
partial Carbon dioxide pressure (pCO2).