

# Advanced Simulation Training in Critical Care (ASTriCC) Mechanical Ventilation Workshop



## Highlights

- Principles of mechanical ventilation
- Understanding ventilator graphics
- Ventilator troubleshooting
- Understanding advanced modes
- Bedside rounds
- Integration with clinical scenarios

Department of Critical Care invites you to a 2 day workshop aimed at enhancing the training of Critical Care students using an Advanced ICU Simulator. Interactive Sessions covering core topics in Respiratory physiology, in depth understanding of ventilator waveforms and non invasive methods like NIV/High flow nasal cannula. All this coupled with complex ICU scenarios will give hands on experience using the simulator. The aim would be strong practical applications based on firm conceptual understanding.

Simulation labs are going to be the need of the hour in Critical Care training curriculum, to create a near realistic patient environment to improve trainee's skill and knowledge. This is the chance to train on the only indigenous high-fidelity Advanced ICU Simulator (CRITICA) designed by the Indian Institute of Science, Bangalore in collaboration with the Department of Critical Care, St John's Medical College and Hospital.

## CRITICA

DESIGNED BY INTENSIVISTS & ENGINEERS FOR INTENSIVISTS

St John's Medical College Hospital, Bengaluru

DATE & TIME

September 13th and 14th, 2019  
8.30Am - 4.30 PM

VENUE

Dept. of Critical Care Medicine, 1st floor  
Silver Jubilee Block, St John's Hospital



# REGISTRATION DETAILS

**NUMBERS STRICTLY LIMITED TO 30**  
**LAST DATE OF REGISTRATION- 05 SEPT 2019**

**Amount: Rs. 5900/- (inc. GST)**

Online Registration Details  
Please visit [www.stjohns.in](http://www.stjohns.in)



**CME CREDIT- 4 Points**

For Registration queries, please contact:

Mrs. Veena kumari

Secretary

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# SCHEDULE

## DAY 1

TIME	TOPICS	KEY OBJECTIVE
8.00–8.30	Registration & Breakfast	
8.30–9.00	Pretest	
9.00–9.30	How does the Ventilator work?	Equations of motion   Series and parallel connection Control variables - recognizing the mode   Classification of Ventilators
9.30–10.00	Phase Variables	Concepts underlying each phase variable Recognition and understanding of scalars
10.00–10.30	Time Constants	Fundamentals of time constant   Derivations   Simple Equations and practical applications   Time constants in Hemodynamics
10.30–10.45	Tea/Coffee	
10.45–11.15	Graphics in Volume control	Equations governing V,F,P in inspiration and expiration What determines changes in scalars   How to construct your own scalars
11.15–11.45	Graphics in Pressure control	Equations governing V,F,P in inspiration and expiration What determines changes in scalars   How to construct your own scalars
<b>Workstation</b>		
<b>11.45–13.15 (30 mins each)</b>	<b>Stations Basic Mechanical Ventilation</b>	<b>Basics which have been explained will be demonstrated   Delegates will identify scenarios to explain all principles and simulate any scenario</b>
13.15–14.00	Lunch	
14.00–14.30	AutoPEEP/Dynamic Hyperinflation	In-depth understanding of physiology and mechanisms underlying development of autopeep in various conditions
14.30–15.00	Recruitment & PEEP Titration	
<b>Workstation</b>		
<b>15.00–16.30 (30 mins each)</b>	<b>Stations Advanced Mechanical Ventilation</b>	<b>Simulation of Asthma, COPD and Autopeep/DHI   ARDS</b>
16.30–16.45	Tea/Coffee	

# SCHEDULE

## DAY 2

TIME	TOPICS	KEY OBJECTIVE
08.30–09.00	High flow Nasal Cannula	Principles of HFNC  how to do
09.00–09.30	Non-invasive Ventilation	Concepts   Interface   initiating and titration of NIV
09.30–10.00	Patient – ventilator asynchrony	Discussing various asynchronies, how to identify and rectify
10.00–10.30	Newer Modes of Ventilation	Discussing Airway Pressure Release Ventilation   Pressure Regulated Volume Control  Proportion assist ventilation   NAVA
10.30–10.45	Tea/Coffee	
10.45–11.10	End tidal Carbon Dioxide	Waveforms   identifying abnormal pattern
<b>11.10–13.15</b>	<b>Stations</b>	
13.15–14.00	Lunch	
14.00–14.45	Bedside rounds	The delegates are asked to manage a complex scenario on the simulator where all principles of past two days have to be applied
14.45–16.15	Construction and testing of a complex scenario for Simulation	Students will design and challenge each other as teams The delegates are asked to manage a complex scenario on the simulator where all principles of past two days have to be applied
16.15–16.30	Post Test	