

ATS Highlights 2023: Critical Care Assembly Early Career Professionals



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Tell us about yourself.

I am a clinician, educator, & informaticist at Cook County Health

Is your research clinical, basic science, or translational?

Clinical and translational.

Tell us about your research.

I investigate the fecal microbiota of the critically ill with the hope to identify which patients may benefit from fecal augmentation therapy. I also research how to train and mentor residents interested in clinical informatics.

Where do you see yourself in 5 years?

Director of a program that trains housestaff in clinical informatics and inspires trainees to use data to identify gaps in care and develop innovative solutions.

How has the Critical Care Assembly contributed to your career?

The ATS Critical Care Assembly mentoring program was an incredible experience which guided me to my career path. The assembly has also provided the opportunity to collaborate with top researchers and educators from around the country.

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Internal Medicine, PCCM

Cook County Health, Chicago, IL

Cox proportional hazards regression model for mortality

Characteristic	HR	95% CI	p-value
Age	1.05	1.01, 1.08	0.010
Chronic kidney disease	1.09	0.42, 2.81	0.861
SOFA score	1.44	1.23, 1.68	3.59e-06
Vancomycin administration	0.41	0.17, 1.00	0.051
Admission location			
Emergency department	-	-	
Hospital medicine	1.49	0.59, 3.73	0.399
Outside hospital	0.18	0.04, 0.86	0.032
Microbiome metabolic profile	1.65	1.18, 2.31	0.003

Microbiome metabolite profile quantifies the health of the fecal microbiota incorporating of the presence of key metabolites

Abstract Title

Immunomodulatory Fecal Metabolites are Associated with Mortality in Critically Ill Patients with COVID-19

Rationale: The intestinal microbiome and their associated metabolites are key to generate immune responses to respiratory viral infections

Methods: Prospective observational study. Development of a metabolite profile score quantifying the health of the microbiome

Results: Abnormal fecal metabolite profiles at the time of ICU admission were associated with high flow nasal cannula failure and mortality.

Conclusions: Fecal microbiota composition and microbiota-derived metabolite concentrations can predict the trajectory of respiratory function and death in patients with severe SARS-Cov-2 infection

