

Razvan Azamfirei

Department of Anesthesiology and Critical Care Medicine
School of Medicine
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Demographic and Personal Information

Education and Training

UNDERGRADUATE

2015 — 2019 **Bachelor of Science**, Yale University
Major: Molecular, Cellular, and Developmental Biology

DOCTORAL/GRADUATE

2015 — 2019 **Masters of Science**, Yale University
Thesis Title: Analysis of Nuclear Envelope-Associated Proteins in Growth and Maintenance of the Nuclear Permeability Barrier in Early *Caenorhabditis elegans* Embryos

2020 — 2024 EXP. **Doctor of Philosophy**, George Emil Palade University of Medicine, Pharmacy, Science, and Technology
Dissertation: Characterizing Delirium in Critically Ill Pediatric Patients

2019 — 2024 EXP. **Doctor of Medicine**, Johns Hopkins University

Work Experience

2020 — 2022 **Board Member/Founding Member** — Fundatia pentru Spitalul Oncologic - Targu Mures, Romania
Served on the managing board of a foundation supervising the building of a 150-bed cancer center in Targu Mures, Romania.

2020 — 2021 **Anesthesiology Interest Group President** — Johns Hopkins University School of Medicine
Organized educational and professional development events for medical students interested in anesthesiology.

2016 — 2019 **Hardware Specialist/Coordinator** — Yale University
Oversaw the computing experience of roughly 500 students by leading a team of technicians to provide on-site and remote personal device support.
Coordinated the activity of the Hardware Repair office and its 78 employees that provided hardware support to roughly 13000 students.

2016 — 2019 **Lead Peer Tutor** — Yale University
Tutored the introductory biology sequence taken by all students interested in medicine or life sciences.
Held weekly didactics covering topics in molecular biology, cell biology, genetics, developmental biology, ecology and evolution.

Awards and Scholarships

Awards

2021	Presidential Citation Award — Society of Critical Care Medicine
2021	Romanian Student of the Year — League of Romanian Students Abroad

Scholarships

2015	Conor Reynolds Bagley Scholar
2016 — 2018	Mark M. Sellek Scholarship
2017	Sotirovich-Franklin Scholarship
2020, 2021	Austrian Scholarship
2020, 2021, 2023	David L. Epstein Scholarship
2020, 2021, 2023	Durrant-Corton Scholarship
2020, 2021, 2023	Presidential Scholarship
2021, 2023	Davis Medical Scholar
2023	Batson Scholarship

Research Funding

2016	Yale College Freshman Summer Research Fellowship
2016	Sherwood E. Silliman Fellowship
2018	Rosenfeld Science Scholar
2020	William Walker Award
2022	Parish Klein Award for Dean's Year of Research

Educational Activities

Teaching

CLINICAL INSTRUCTION

2022	Clinical Clerkship in Anesthesiology – <i>ad hoc</i> educational sessions
2022	Clinical Foundations of Medicine – <i>ad hoc</i> educational sessions
2022 — 2023	Clinical Mentorship Program

Mentoring

PRE-DOCTORAL ADVISEES / MENTEES

2022 — 2023	Stefany Lazieh
2022 — present	Isabella Blackman
2022 — present	Pooja Vikraman
2022 — present	Rachel De Armas

POST-DOCTORAL ADVISEES / MENTEES

2023 — present	Sukaina Furniturewala
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Educational Content Development

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| 2022 — present | SCCM Virtual Critical Care Rounds Educational Modules (Altered Mental Status, Seizures) |
| 2023 | ICU Early Mobility (PICU Up!) Educational Modules |

Organizational Activities

Committee Appointments

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| 2020 — 2024 | Society of Critical Care Medicine Undergraduate Medical Education Committee (Member) |
| 2020 — 2021 | Johns Hopkins University School of Medicine - Liaison Committee on Medical Education (LCME) Self-Study Committee - Medical Students (Member) |
| 2019 — 2020 | Student Curriculum Review Team (Member, Cell Physiology Report Leader) |
| 2020 | American Society of Anesthesiologists (Medical Student Delegate) |

Journal Peer Review Activities

Critical Care
Critical Care Medicine
Journal of Critical Care Medicine
Journal of Pain Research
Medicine
Pediatric Critical Care Medicine
Risk Management and Healthcare Policy

Professional Societies

American Society of Anesthesiologists
Society of Critical Care Medicine

Hobbies

Flying Private Pilot License since 2017
Chess former USCF Correspondence Chess Candidate Master
Software Development maintainer of Homebrew, one of the largest macOS open-source projects

Selected Publications

Original Research

1. Badea IM, **Azamfirei R**, Grigorescu BL, Raduly G, Hutanu A, Petrisor M, Lazar AE, Almasy E, Fodor RS, Man A, Szederjesi J, Gurzu S, Azamfirei L, and Georgescu AM. The Role of Interleukin-6 as an Early Predictor of Sepsis in a Murine Sepsis Model. *Rom J Morphol Embryol* 2019;60.1:69–75
2. Georgescu AM, Banescu C, **Azamfirei R**, Hutanu A, Moldovan V, Badea I, Voidazan S, Dobreanu M, Chirtes IR, and Azamfirei L. Evaluation of TNF-alpha genetic polymorphisms as predictors for sepsis susceptibility and progression. *BMC Infect Dis* 2020;20.1:221. DOI: 10.1186/s12879-020-4910-6
3. Demko ZO, Antar AAR, Blair PW, Lambrou AS, Yu T, Brown D, Walch SN, Armstrong DT, Mostafa HH, Keruly JC, Thomas DL, Manabe YC, and **Team ACS**. Clustering of SARS-CoV-2 Infections in Households of Patients Diagnosed in the Outpatient Setting in Baltimore, Maryland. *Open Forum Infect Dis* 2021;8.4:ofab121. DOI: 10.1093/ofid/ofab121
4. Blair PW, Brown DM, Jang M, Antar AAR, Keruly JC, Bachu VS, Townsend JL, Tornheim JA, Keller SC, Sauer L, Thomas DL, Manabe YC, and **Team ACS**. The Clinical Course of COVID-19 in the Outpatient Setting: A Prospective Cohort Study. *Open Forum Infect Dis* 2021;8.2:ofab007. DOI: 10.1093/ofid/ofab007
5. Manabe Y, Reuland C, Yu T, **Azamfirei R**, Hardick J, Church T, Brown DM, Sewell T, Antar A, Blair P, Heaney C, Pekosz A, and Thomas DL. Self-Collected Oral Fluid Saliva Is Insensitive Compared With Nasal-Oropharyngeal Swabs in the Detection of Severe Acute Respiratory Syndrome Coronavirus 2 in Outpatients. *Open Forum Infect Dis* 2021;8.2:ofaa648. DOI: 10.1093/ofid/ofaa648
6. Procaccini D, Lobner K, **Azamfirei R**, and Kudchadkar SR. Melatonin for Anaesthetic Indications in Paediatric Patients: A Systematic Review. *Anaesthesia* 2021;76.6:837–49. DOI: 10.1111/anae.15249
7. Antar AAR, Yu T, Pisanic N, et al. Delayed Rise of Oral Fluid Antibodies, Elevated BMI, and Absence of Early Fever Correlate With Longer Time to SARS-CoV-2 RNA Clearance in a Longitudinally Sampled Cohort of COVID-19 Outpatients. *Open Forum Infect Dis* 2021;8.6:ofab195. DOI: 10.1093/ofid/ofab195
8. **Azamfirei R**, Mennie C, Fackler J, and Kudchadkar SR. Development of a Stata Command for Pediatric Risk of Mortality Calculation. *Pediatr Crit Care Me* 2023;24.3:e162–e163. DOI: 10.1097/pcc.0000000000003149
9. **Azamfirei R**, Mennie C, Dinglas VD, Fatima A, Colantuoni E, Gurses AP, Balas MC, Needham DM, and Kudchadkar SR. Impact of a multifaceted early mobility intervention for critically ill children – the PICU Up! trial: study protocol for a multicenter stepped-wedge cluster randomized controlled trial. *Trials* 2023;24.1:191. DOI: 10.1186/s13063-023-07206-2
10. Antar AAR, Yu T, Demko ZO, Hu C, Tornheim JA, Blair PW, Thomas DL, Manabe YC, and **OutSMART Study Group**. Long COVID brain fog and muscle pain are associated with longer time to clearance of SARS-CoV-2 RNA from the upper respiratory tract during acute infection. *Front Immunol* 2023;14.1:191. DOI:

10.3389/fimmu.2023.1147549

11. **Azamfirei R**, Procaccini D, Lobner K, and Kudchadkar SR. The Effects of Intraoperative Methadone on Postoperative Pain Control in Pediatric Patients: A Scoping Review. *Anesth Analg* 2023;Published Ahead of Print. DOI: 10.1213/ane.0000000000006548

Abstracts

1. Penfield L, **Azamfirei R**, and Bahmanyar S. Coordinating membrane incorporation with ESCRT-III-dependent remodeling generates a sealed nuclear envelope. *Molecular Biology of the Cell* 2018;29.26:3063–3. DOI: 10.1091/mbc.e18-10-0647
2. Georgescu AM, Banescu C, **Azamfirei R**, Voidazan S, and Azamfirei L. The Impact of TNF-A Genetic Variability on Sepsis Risk and Its Severity. *Crit Care Med* 2019;47.1:27. DOI: 10.1097/01.ccm.0000550845.11477.6a
3. **Azamfirei R**, Banescu C, and Georgescu AM. Clinical Relevance of TLR4 Single-Nucleotide Polymorphisms in Septic Patients. *Crit Care Med* 2020;48.1:798–8. DOI: 10.1097/01.ccm.0000648488.40747.d7
4. Antar AA, Yu T, **Azamfirei R**, Pisanic N, Tornheim JA, Littlefield K, Klein SL, Pekosz A, Heaney CD, Hu C, Wang MC, Blair P, Thomas DL, and Manabe YC. Host Factors Associated with Persistent SARS-CoV-2 Viral RNA in COVID-19 Outpatients. *Top Antivir Med* 2021;29.1:68
5. **Azamfirei R**, Awojoodu R, Abu-Sultane S, Behrens D, Geno M, Goldberg S, Madden K, Madsen E, Manning MJ, Maue D, Padilla S, Piele M, and Kudchadkar S. To Screen or Not to Screen: Risk Factors for Missed Delirium Screening in Critically Ill Children. *Crit Care Med* 2021;49.1:523–3. DOI: 10.1097/01.ccm.0000730076.66471.c3
6. **Azamfirei R**, Behrens D, Padilla S, Madden K, Goldberg S, Geno M, Manning MJ, Piele M, Madsen E, Maue D, Abu-Sultane S, Awojoodu R, and Kudchadkar S. Factors Influencing Delirium Screening in Pediatric Intensive Care Patients. *Pediatr Crit Care Me S1 3S* 2021;22:69–9. DOI: 10.1097/01.pcc.0000738632.54664.bd
7. **Azamfirei R**, Mennie C, Fackler J, and Kudchadkar S. Making PRISM Easy: Development of a Stata Command for Risk-of-Mortality Calculation. *Crit Care Med* 2023;51.1:564–4. DOI: 10.1097/01.ccm.0000910264.59110.5f
8. LaRosa JM, **Azamfirei R**, and Kudchadkar SRK. Medical equipment reduces out-of-bed mobility for critically ill children. 2024. [Accepted - SCCM 2024 Critical Care Congress.]
9. De Armas R, Blackman I, Mennie C, Awojoodu R, Maue D, Behrens D, Madsen E, Madden K, Manning MJ, Geno M, Piele M, Abu-Sultane S, Goldberg S, Padilla S, Needham D, Kudchadkar SR, and **Azamfirei R**. Clinical Factors Associated with Physical Restraint Use in Critically Ill Children. 2024. [Accepted - SCCM 2024 Critical Care Congress.]
10. Blackman I, De Armas R, Padilla S, Goldberg S, Abu-Sultane S, Piele M, Geno M, Manning MJ, Madden K, Madsen E, Behrens D, Maue D, Mennie C, Furniturewala S, Awojoodu R, Needham D, Kudchadkar SR, and **Azamfirei R**. Benzodiazepines and

Pediatric Delirium: Is There Any Safe Dose? 2024. [Accepted - SCCM 2024 Critical Care Congress.]

11. **Azamfirei R**, Mennie C, Awojoodu R, Behrens D, Padilla S, Madden K, Goldberg S, Geno M, Manning MJ, Piole M, Madsen E, Maue D, Abu-Sultaneh S, Needham D, and Kudchadkar SR. The PICU Up! Pilot Trial: Feasibility and Impact of an Early Mobility Protocol in Pediatric ICUs. 2024. [Accepted - SCCM 2024 Critical Care Congress.]

Invited Editorials

1. **Azamfirei R**. The 2019 Novel Coronavirus: A Crown Jewel of Pandemics? J Crit Care Med (Targu Mures) 2020;6.1:3–4. DOI: 10.2478/jccm-2020-0013
2. Abeles E and **Azamfirei R**. Reflections on a Year of SARS-CoV-2. J Crit Care Med (Targu Mures) 2021;7.1:3–5. DOI: 10.2478/jccm-2021-0005
3. **Azamfirei R**. Artificial Intelligence: The Next Blockbuster Drug in Critical Care? J Crit Care Med (Targu Mures) 2023;9.2:61–3. DOI: 10.2478/jccm-2023-0017

Letters, Correspondence

1. Crane MA, Chang HA, and **Azamfirei R**. Medical Education Takes a Step in the Right Direction: Where Does That Leave Students? JAMA 2020;323.20:2013. DOI: 10.1001/jama.2020.2950
2. **Azamfirei R**, Kudchadkar SR, and Fackler J. Large language models and the perils of their hallucinations. Crit Care 2023;27.1:120. DOI: 10.1186/s13054-023-04393-x

Oral Presentations

1. Antar AA, Yu T, **Azamfirei R**, Pisanic N, Tornheim JA, Littlefield K, Klein SL, Pekosz A, Heaney CD, Hu C, Wang MC, Blair P, Thomas DL, and Manabe YC. Hosts Factors Associated with Persistent SARS-CoV-2 Viral RNA in COVID-19 Outpatients. Presented at: Conference on Retroviruses and Opportunistic Infections. 2021
2. **Azamfirei R**. Factors Influencing Delirium Screening in Pediatric Intensive Care Patients. Presented at: American Delirium Society 2021 Virtual Annual Conference. 2021
3. **Azamfirei R**, Mennie C, Fackler J, and Kudchadkar SR. Making PRISM easy: Development of a Stata command for risk-of-mortality calculation. Presented at: Johns Hopkins Anesthesiology and Critical Care Medicine Research Day. 2022
4. **Azamfirei R**, Procaccini D, Lobner K, and Kudchadkar SR. The Effects of Intraoperative Methadone on Postoperative Pain Control in Pediatric Patients. Presented at: Johns Hopkins Anesthesiology and Critical Care Medicine Research Day. 2022
5. **Azamfirei R**, Banescu C, and Georgescu AM. Clinical Relevance of TLR4 Single-Nucleotide Polymorphisms in Septic Patients. Presented at: Society of Critical Care Medicine 49th Critical Care Conference. 2020

6. **Azamfirei R**, Penfield L, and Bahmanyar S. Dissecting Mechanisms of Nuclear Envelope Dynamics in *C. Elegans* Embryos. Presented at: Northeast Nuclear Envelope Regional Meeting. 2018
7. **Azamfirei R**, Penfield L, and Bahmanyar S. Dissecting Mechanisms of Nuclear Envelope Dynamics in *C. Elegans* Embryos. Presented at: Molecular, Cellular and Developmental Biology Retreat. 2018
8. **Azamfirei R**, Penfield L, and Bahmanyar S. Dissecting Mechanisms of Nuclear Envelope Dynamics in *C. Elegans* Embryos. Presented at: Rosenfeld Symposium, New Haven, CT. 2018
9. **Azamfirei R**, Awojoodu R, and Kudchadkar S. Factors Influencing Delirium Screening in Pediatric Intensive Care Patients. Presented at: 9th Annual Johns Hopkins Critical Care Rehabilitation Conference. 2020
10. **Azamfirei R**, Behrens D, Padilla S, Madden K, Goldberg S, Geno M, Manning MJ, Piole M, Madsen E, Maue D, Abu-Sultaneh S, Awojoodu R, and Kudchadkar S. Factors Influencing Delirium Screening in Pediatric Intensive Care Patients. Presented at: Johns Hopkins Anesthesiology and Critical Care Medicine Research Day. 2020
11. **Azamfirei R**, Behrens D, Padilla S, Madden K, Goldberg S, Geno M, Manning MJ, Piole M, Madsen E, Maue D, Abu-Sultaneh S, Awojoodu R, and Kudchadkar S. Factors Influencing Delirium Screening in Pediatric Intensive Care Patients. Presented at: 10th Congress of the World Federation of Pediatric Intensive and Critical Care Societies. 2020
12. **Azamfirei R**, Awojoodu R, Abu-Sultaneh S, Behrens D, Geno M, Goldberg S, Madden K, Madsen E, Manning MJ, Maue D, Padilla S, Piole M, and Kudchadkar S. To Screen or Not to Screen: Risk Factors for Missed Delirium Screening in Critically-Ill Children. Presented at: Society of Critical Care Medicine 50th Critical Care Conference. 2021
13. Georgescu AM, Banescu C, **Azamfirei R**, Voidazan S, and Azamfirei L. The Impact of TNF-alpha Genetic Variability on Sepsis Risk and Its Severity. Presented at: Society of Critical Care Medicine 48th Critical Care Conference. 2019
14. He W, Eter LE, Yesantharao P, **Azamfirei R**, Owens H, and Sacks JM. Comparing Clinical Outcomes for TRAM, DIEP, and Latissimus Dorsi Flap Breast Reconstructions: A Systematic Review and Meta-Analysis. Presented at: 65th Annual Meeting of the Plastic Surgery Research Council. 2020
15. Penfield L, **Azamfirei R**, and Bahmanyar S. Coordinating membrane incorporation with ESCRT-III-dependent remodeling generates a sealed nuclear envelope. Presented at ASCB. 2018
16. Penfield L, **Azamfirei R**, and Bahmanyar S. Coordinating Membrane Incorporation with ESCRT-III-dependent Remodeling Generates a Sealed Nuclear Envelope. Presented at: Molecular, Cellular and Developmental Biology Retreat. 2018
17. Penfield L, **Azamfirei R**, and Bahmanyar S. Coordinating Membrane Incorporation with ESCRT-III-dependent Remodeling Generates a Sealed Nuclear Envelope. Presented at: Northeast Nuclear Envelope Regional Meeting. 2018

Other Media

1. Yaster M, Kudchadkar SR, and **Azamfirei R**. To sleep perchance to dream. Pediatric Anesthesia Article of the Day, 2023

Last Updated: 10/25/2023.