

Curriculum vitae

Simon Rauch, MD, PhD, EDIC

Specialist in Internal Medicine

Specialist in Anaesthesiology & Intensive Care Medicine

Education and training

2016-2019	PhD-program at the "Leopold-Franzens" University Innsbruck, Austria. Thesis on "Suspension Syndrome"
2003-2009	Study of Medicine at the Medical University Innsbruck, Austria. Thesis on „Adiponectine and type 2 diabetes: Influence of oral antidiabetic drugs and insulin on Adiponectine and its isomers in type 2 diabetes“
1996-2003	Conservatory of music Claudio Monteverdi Bolzano, majoring in Clarinet with Prof. Roberto Gander with "summa cum laude"

Work experience

Since 2020	Medical director of the Mountain Rescue Service South Tyrol (BRD Südtirol)
Since 2020	HEMS emergency physician (HELI, South Tyrol)
Since 2019	Consultant in Anaesthesiology and Intensive Care Medicine, "F. Tappeiner" Hospital Merano, Italy
2018-2019	Senior Fellow in Anaesthesiology and Intensive Care Medicine, University Hospital LMU Munich, Germany
2015-2018	Resident in Anaesthesiology, "F. Tappeiner" Hospital Merano, Italy
2011-2015	Resident in Internal Medicine and Intensive Care Medicine, "F. Tappeiner" Hospital Merano, Italy
2010-2011	Resident in Internal Medicine and Intensive Care Medicine, University Hospital Regensburg, Germany

Fellowships

05/2019	Fellowship in "Hemodynamic Monitoring" of the European Society of Intensive Care Medicine at the "Chirec Hospital Group" Brussels, Belgium, with Prof. Daniel De Backer
11/2017	Fellowship in "Infections in ICU: Modern Management" of the European Society of Intensive Care Medicine at the University College London Hospital (UK) with Prof. Mervyn Singer
05/2017	Fellowship in "Pain, Agitation and Delirium Management" of the European Society of Intensive Care Medicine at the Royal Infirmary Hospital Manchester (UK)

Research

2014-present	Senior researcher at the Institute of mountain emergency medicine at EURAC research, Bolzano, Italy
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Main fields of research: Accidental hypothermia and avalanche emergencies, cardiac arrest in remote areas, trauma in the mountains

Diplomas, Certificates, Courses

2019	Specialist Diploma in Anaesthesiology (Bavarian Medical Chamber, Munich)
2016	Specialist Diploma in Internal Medicine (Austrian Medical Chamber, Vienna)
2016	International Diploma in Mountain Medicine (UIAA medical commission)
2014	European Diploma in Intensive Care Medicine (European Society of Intensive Care Medicine)
2014	Diploma in Emergency Medicine (ANS Salzburg, Austria)
2010-present	Other selected courses/certificates: <ul style="list-style-type: none">• Adult advanced life support (ALS)-, Paediatric advanced life support (EPLS)-, Advanced prehospital trauma care (PTC)-diploma of the Italian Resuscitation Council (IRC)• Transthoracic and Transesophageal Echocardiography Masterclass (Medical University Vienna, Austria)• Advanced haemodynamic monitoring with echocardiography (Brussels)• Diploma in Abdominal Sonography (Basic & Advanced, German Society for Ultrasound in Medicine)• Emergency Echocardiography (FATE)• Certificate of Good Clinical Practice (GCP; University of Regensburg, Germany)

Teaching, congress participation

2019	Lecturer at the postgraduate course “Laurea magistrale in science infermieristiche ed ostetriche” at the University of Verona
2016-present	Italian Resuscitation Council Instructor accredited for Advanced Life Support (ALS) and Advanced Prehospital Trauma Care
2014-present	Regular lectures at mountain emergency medicine courses; oral presentations at regional, national and international congresses

Honours and awards

2021	“Fusion Grant” for the project “Can wearing face masks at rest and during exercise at sea-level and altitude lead to health problems? Development of face masks with increased breathability and retained microbial filter properties.”
2016	Research Grant of the German Society of Mountain and Expedition Medicine (Ventilatory patterns during and potential pulmonary complications after complete avalanche burial)
2007	Dr. Otto-Seibert-Award
1999-2003	Awardee in numerous national and international music/clarinet competitions

Memberships

European society of intensive care medicine (ESICM), Italian resuscitation council (IRC), German society of mountain and expedition medicine (BexMed)

Board member of the Austrian Society of Alpine and High-Altitude Medicine (ÖGAHM)

Publication list

First, senior or corresponding author of original research published in peer-reviewed journals

- **Rauch S**, Fong D, Morra E, Maines F, Caffo O, Spizzo G. *Feasibility of Abiraterone Acetate treatment in patients with metastatic castration resistant prostate cancer and atrial fibrillation*. Prostate International. 2016 Jun;4(2):54-5.
- **Rauch S**, Dal Cappello T, Strapazon G, Palma M, Bonsante F, Gruber E, Ströhle M, Mair P, Brugger H. *Pre-hospital times and clinical characteristics of severe trauma patients: A comparison between mountain and urban/suburban areas*. American Journal of Emergency Medicine 2018 Oct; 36(10):1749-53.
- Pietsch U, Knapp J, Kreuzer O, Ney L, Strapazon G, Lischke V, Albrecht R, Phillips P, **Rauch S**. *Advanced airway management in hoist and longline operations in mountain HEMS - considerations in austere environments: a narrative review. This review is endorsed by the International Commission for Mountain Emergency Medicine (ICAR MEDCOM)*. Scand J Trauma Resusc Emerg Med. 2018 Apr; 3;26(1):23.
- **Rauch S**, Strapazon G, Brodmann M, Fop E, Masoner C, Rauch L, Forti A, Pietsch U, Mair P, Brugger H. *Implementation of a mechanical CPR device in a physician staffed HEMS – a prospective observational study*. Scand J Trauma Resusc Emerg Med. 2018 Apr; 26(1):36.
- Ströhle M, **Rauch S**, Lastei Ph, Brodmann M, Brugger H, Paal P. *Frostbite injuries in the Austrian Alps – a retrospective 11-year National Registry study*. High Alt Med Biol. 2018 Dec; 19(4):316-20.
- **Rauch S**, Schenk K, Strapazon G, Dal Cappello T, Gatterer H, Palma M, Erckert M, Oberhuber L, Bliemsrieder B, Brugger H, Paal P. *Suspension syndrome: a potentially fatal vagally mediated circulatory collapse - an experimental randomized crossover trial*. Eur J Appl Physiol. 2019 Jun; 119(6):1353-65.
- **Rauch S**, Schenk K, Gatterer H, Erckert M, Oberhuber L, Bliemsrieder B, Dal Cappello T, Brugger H, Paal P, Strapazon G. *Venous pooling in suspension syndrome assessed with ultrasound*. Wilderness Environ Med. Dec 2019.
- **Rauch S**, Wallner B, Dal Cappello T, Ströhle M, Brodmann M. *Climbing Accidents—Prospective Data Analysis from the International Alpine Trauma Registry and Systematic Review of the Literature*. Int. J. Environ. Res. Public Health 2020, 17, 203.
- Rojatti M, Regli I, Zanforlin A, Ferretti E, Falk M, Strapazon G, Gamper M, Zanon P, Bock M, **Rauch S**. *Lung Ultrasound and Respiratory Pathophysiology in Mechanically Ventilated COVID-19 Patients—an Observational Trial*. SN Comprehensive Clinical Medicine. Sept 2020

Co- author of original research published in peer-reviewed journals

- Husser O, **Rauch S**, Endemann DH, Resch M, Nunez J, Bodi V, Hilker M, Schmid C, Riegger GA, Luchner A, Hengstenberg C. *Impact of three-dimensional transesophageal echocardiography on prosthesis sizing for transcatheter aortic valve implantation*. Catheter Cardiovasc Interv. 2012 Nov; 80(6):956-63.
- Strapazon G, Procter E, Vezzano R, Hofer G, Dal Cappello T, Pohl M, Schenk K, **Rauch S**, Brugger H. *B-lines after ascent to high altitude by flight vs. climbing*. Italian Journal of Aerospace Medicine. 2015; 13.
- Bruttomesso D, Laviola L, Lepore G, Bonfanti R, Bozzetto L, Corsi A, Di Blasi V, Girelli A, Grassi G, Iafusco D, Rabbone I, Schiaffini R and the **Italian Study Group on Diffusion of CSII**. *Continuous subcutaneous insulin infusion in Italy: third national survey*. Diabetes Technol Ther. 2015; 17:96-104.
- Ausserer J, Moritz E, Stroehle M, Brugger H, Strapazon G, **Rauch S**, Mair P, *International Alpine Trauma Registry Study Group*. *Physician staffed helicopter emergency medical systems can provide advanced trauma life support in mountainous and remote areas*. Injury. 2017 Jan; 48(1):20-25.
- De Hert S, Staender S, Fritsch G, Hinkelbein J, Afshari A, Bettelli G, Bock M, Chew MS, Coburn M, De Robertis E, Drinhaus H, Feldheiser A, Geldner G, Lahner D, Macas A, Neuhaus C, **Rauch S**, Santos-Ampuero MA, Solca

M, Tanha N, Traskaite V, Wagner G and Wappler F. *Pre-operative evaluation of adults undergoing elective noncardiac surgery*. Eur J Anaesthesiol. 2018 Jun; 35(6):407-65.

- Ströhle M, Wallner B, Lanthaler M, **Rauch S**, Brugger H, Paal P. *Lightning accidents in the Austrian Alps – a 10-year retrospective nationwide analysis*. Scand J Trauma Resusc Emerg Med. 2018 Sep; 26(1):74.
- Pietsch U, Strapazon G, Ambühl D, Lischke V, **Rauch S**, Knapp J. *Challenges of helicopter mountain rescue missions by human external cargo: Need for physicians onsite and comprehensive training*. Scand J Trauma Resusc Emerg Med. 2019 Feb; 27(1):17.
- Ströhle M, Vögele A, Neuhauser P, **Rauch S**, Brugger H, Paal P. *Sudden Cardiac Arrest and Cardiopulmonary Resuscitation with Automated External Defibrillator in the Austrian Mountains: A Retrospective Study*. High Altitude Medicine & Biology. 2019 Oct.
- Ströhle M, Beeretz I, Rugg Ch, Woyke S, **Rauch S**, Paal P. *Canyoning Accidents in Austria from 2005 to 2018*. International Journal of Environmental Research and Public Health 17(1):102. Dec 2019.
- Gatterer H, **Rauch S**, Procter E, Strapazon G, Schenk K. *Performance Determinants in Short (68 km) and Long (121 km) Mountain Ultra-Marathon Races*. Sportverl Sportschad. April 2020
- Fong D, **Rauch S**, Petter Ch, Haspinger E, Alber M, Mitterer M. *Infection rate and clinical management of cancer patients during the COVID-19 pandemic: experience from a tertiary care hospital in northern Italy*. ESMO Open. May 2020.
- Pietsch U, Reiser D, Wenzel V, Knapp J, Tissi M, Theiler L, **Rauch S**, Meuli L, Albrecht R. *Mechanical Chest Compression Devices in the Helicopter Emergency Medical Service in Switzerland*. Scand J Trauma Resusc Emerg Med. 2020 Jul; 28, 71
- Tremblay JC, Ainslie PN, Turner R, Gatterer H, Schlittler M, Woyke S, Regli IB, Strapazon G, **Rauch S**, Siebenmann C. *Endothelial function and shear stress in hypobaric hypoxia: time course and impact of plasma volume expansion in men*. Accepted for publication in AJP-Heart and Circulatory Physiology.
- Rugg Ch, Tiefenthaler L, **Rauch S**, Gatterer H, Paal P, Ströhle M. *Rock-climbing emergencies in the Austrian Alps: injury pattern and risk analysis*. Int. J. Environ. Res. Public Health. 2020; 17, 7596
- Gatterer H, **Rauch S**, Regli I, Woyke S, Schlittler M, Turner R, Strapazon G, Brugger H, Goetze J, Feraille E, Siebenmann Ch. *Plasma volume contraction reduces atrial natriuretic peptide after four days of hypobaric hypoxia exposure*. American Journal of Physiology - Regulatory, Integrative and Comparative Physiology. Article in press, 2021.

First or co-author of review articles

- **Rauch S**, Schenk K, Paal P, Strapazon G, Brugger H. *Avalanche emergencies 2015: an update*. Der Notarzt 2015; 31: 301-5 (Article in German).
- **Rauch S**, Schenk K, Rainer B, Strapazon G, Paal P, Brugger H. *Emergency medicine at the limit: shock-, analgesic therapy and airway management in difficult terrain*. Anästhesiol Intensivmed Notfallmed Schmerzther 2016 Jan; 51(1):28-36 (Article in German).
- Brodmann M, **Rauch S**, Strapazon G, Brugger H. *Medizinische Aspekte bei Lawinenunfällen - ein Update*. Flugmedizin Tropenmedizin Reisemedizin. 2017; 24(05): 221-5 (Article in German).
- Lechner R, Straps E, Brugger H, **Rauch S**. *Das Hängetrauma – Paradigmenwechsel in der initialen Lagerungstherapie*. Der Notarzt. 2018; 34(03):156-61 (Article in German).
- Lechner R, Straps E, Brugger H, **Rauch S**. *Rettungsdienstliche Strategie beim Hängetrauma*. retten 2019; 8: 112–120.
- Lechner R, **Rauch S**. *Suspension Syndrome*. Dtsch Z Sportmed. 2020; 71: 275-279

Letters, Editorials

- Brugger H, Procter E, **Rauch S**, Strapazon G. *Cooling rate for triage decisions should exclude post-extrication cooling in avalanche victims*. Resuscitation. 2015 Sep;94:e3.

- Paal P, **Rauch S**. *Indoor accidental hypothermia in the elderly: an emerging lethal entity in the 21st century*. Emerg Med J; 2018 Nov; 35(11):667-8.
- Strapazon G, Forti A, **Rauch S**. *The importance of pre-hospital interventions for prevention and management of witnessed hypothermic cardiac arrest*. Resuscitation. 2019 Jul; 140:217-8.
- Strapazon G, Forti A, **Rauch S**, Brugger H. *The integration of prehospital standard operating procedures and in-hospital HOPE score for management of hypothermic patients in cardiac arrest*. Resuscitation; 2019 Aug; 141:212-3.
- Vögele A, Ströhle M, Paal P, **Rauch S**, Brugger H. *Can drones improve survival in mountain areas, providing automated external defibrillators?* Resuscitation; 2019 Dez.
- Woyke S, **Rauch S**, Ströhle M, Gatterer H. *Modulation of Hb-O2 affinity to improve hypoxemia in COVID-19 patients*. Clinical Nutrition 2020
- Strapazon G, Hilty M, Bouzat P, Pratali L, Brugger H, **Rauch S**. *To compare the incomparable: COVID-19 pneumonia and high altitude disease*. European Respiratory Journal 2020.
- **Rauch S**, Regli I, Clara A, Seraglio P, Bock M, Poschenrieder F, Resch M. *Right ventricular myopericarditis in COVID-19: a call for regular echocardiography*. Accepted for publication in Minerva Anestesiologica

Case reports

- Clara A, **Rauch S**, Überbacher C.A, Felgenhauer N, Drüge G. *Hochdosiertes Magnesiumsulfat bei Aconitumintoxikation*. Der Anästhesist. 2015;64(5):381-4.
- Forti, A, Brugnaro P, **Rauch S**, Brugger H, Cipollotti G, Strapazon G. *Hypothermic cardiac arrest with full neurologic recovery after ~9 hours of cardiopulmonary resuscitation: management and possible complications*. Ann Emerg Med. 2019 Jan; 73(1): 52-57.

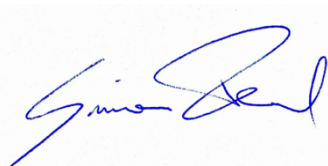
Book chapters

- Paal P, Beikircher W, **Rauch S**, Brugger H. Chapter on „Medical aspects in avalanche accidents“ (Lawinenunfall und medizinischer Hintergrund). In „Ausbildungsbuch der Tiroler Lawinenkommission 2017“.
- **Rauch S**, Wallner B, Brugger H. Chapter entitled „Alpine Environment“ (Alpines Umfeld) in „Emergency medicine in extreme situations“ (Notfallmedizin in Extremsituationen). Ruppert M, Hinkelbein J (editors). MWW Berlin 2018. ISBN: 978-3-95466-344-6.
- **Rauch S**, Paal P. Chapter on “Cardiopulmonary resuscitation” in “Mountain emergency medicine”. To be released in 2020.
- **Rauch S**, Nussbickel M, Lechner R. Chapter on “Suspension syndrome” in “Mountain emergency medicine”. To be released in 2020.

Languages

German (mother language), Italian (C2), English (C1), Latin (B1)

Sincerely,



Simon Rauch, MD, PhD, EDIC

February 2021