Curriculum Vitae

Biographic Data

Name:	Tobias Eckle
Titles:	MD, PhD, FASA
Current Position:	Professor of Anesthesiology, Cardiology and Cell Biology
Address:	12700 E 19th Avenue, Mailstop B112, RC 2, Room 7121 Aurora, CO 80045

Education

08/1991-06/1993	Abitur (College): **summa cum laude**
07/1993-06/1994	Military duty
08/1994-09/1994	Practical training in internal medicine, Hospital Horb, Germany
09/1994-08/1996	Pre-medical graduation, Eberhard-Karls-University, Tübingen, Germany
09/1994-04/2001	**MD**, Eberhard-Karls-University, Tübingen, Germany
09/1997-11/2001	**PhD, Dissertation** on 'Phenotypical and genotypical analyses on drug resistant cytomegalovirus infections in children after peripheral stem cell transplantation' (**summa cum laude**), Institute of Medical Virology and Epidemiology of Viral Diseases, Tübingen, Germany
04/2000-03/2001	**Internship** in anesthesia, internal medicine, abdominal and cardiac surgery, Department of Anesthesiology and Intensive Care Medicine, Clinic of Internal Medicine, Department of Abdominal Surgery, Department of Cardiac Surgery, University Hospital of Tübingen
07/2001-07/2006	**Residency in anesthesia**, Department of Anesthesiology and Critical Care Medicine, University Hospital of Tübingen. Operating Room (general surgery and trauma surgery: 8 months; ophthalmology: 4 months; ear, nose and throat medicine: 5 months; gynecology and obstetrics: 7 months; children's surgery: 3 months; neurosurgery: 4 months; cardiac, thoracic and vascular surgery: 6 months and different departments of the Clinic for altogether 8 months: a total of 2730 cases)
08/2006-08/2007	**Clinical fellowship in Critical Care Medicine**, Anesthesiology and Intensive Care Medicine, Tübingen University Hospital, Germany
10/2007	**Diplomate of the German Board of Anesthesiology**
11/2003-04/2004	**Postdoctoral research fellow** in the Department of Virology, University of Tübingen, and Program Director: Prof. Dr. med. Gerhard Jahn, Topic: Generation of recombinant HCMV.
11/2004-07/2006	**Postdoctoral research fellow** in the Department of Anesthesiology and Intensive Care Medicine, Program Director: Prof. Dr. med. Holger Eltzschig, Topic: Nucleotide Metabolism and Nucleoside Signaling in Ischemic Preconditioning of the Heart.
07/2001-04/2008	**Habilitation** in Anesthesiology (Germany, **equals Full Professor status**), highest academic qualification a person can achieve by their own pursuit in certain European countries. Earned after obtaining a research doctorate (Ph.D. or equivalent

	degrees), the habilitation requires the candidate to write a professorial thesis based on independent scholarly accomplishments, reviewed by and defended before an academic committee in a process similar to that for the doctoral dissertation. *The requirements to achieve this title includes a board certification in the specialty, fifteen publications in peer reviewed journals, ten publications as a first author, publications in high impact journals, the writing of a thesis that demonstrates continuous and successful research work in one single area, evidence of grants, training of PhD/MDs, teaching ability, oral presentations and awards.* *Thesis, 127 pages, 'Attenuation of myocardial ischemia reperfusion injury by extracellular generation and signaling of adenosine'.*
2010-2014	Medical Boards USA
06/2012	Entry into the four-year Alternate Path of the American Board of Anesthesiology
10/25/2018	Diplomate of the American Board of Anesthesiology
02/24/2023	FASA

Academic Appointments

07/2006-07/2007	Clinical Fellow in Anesthesia, Department of Anesthesiology and Intensive Care Medicine, University Hospital of Tübingen
01/2006-01/2008	Instructor in Anesthesia, Tübingen University Hospital, Germany
01/2008-06/2010	Assistant Professor in Anesthesia, University of Colorado, USA
04/2008	Promotion to Privatdozent in Anesthesia, Tübingen University Hospital, Germany
06/2008-2012	Director for Resident Training in Basic Science Research, University of Colorado, USA
2010-2016	Associate Professor of Anesthesiology, University of Colorado, USA
2010-2016	Associate Professor of Cardiology, University of Colorado, USA
2010-2016	Associate Professor of Cell Biology, Stem Cells and Development, University of Colorado at Denver, USA
2012-2014	Assistant Clerkship Director for 3rd year Medical Students
2016	**Professor of Anesthesiology**, Cardiology and Cell Biology, University of Colorado, USA
Since 2018	***Director Grand Rounds*** Department of Anesthesiology
2020-2022	Adjunct member of the ASA Committee on Research
Since 2021	***Medical Director*** of Advanced Practice Providers
Since 2023	Associate ***Vice Chair*** of Faculty Development
02/24/2023	**FASA** – Fellow of the American Society of Anesthesiology
2023-2025	Adjunct member of ASA's Committee on Academic Anesthesiology

Hospital, government, or other professional positions

10/1993-06/1994	Instructor for medical service at the Military Duty (Group leader)
09/1996-06/1997	Hospital nurse, Internal Medicine, University Hospital of Tübingen, Germany

06/2000-04/2001	Professional Research Assistant in the laboratory of Professor Klaus Hamprecht, Institute of Virology and Epidemiology, University Hospital of Tübingen, Germany
01/2004-01/2006	General practitioner for emergency medical assistance service (self-employed, medical practice of Dr. Ulrich Göhring and Dr. Petra Dörre), Germany

Awards and Honors

2001	PhD thesis: summa cum laude
2006	Fortüne Science Award, University of Tübingen, Germany
2007	Fortüne Science Award, University of Tübingen, Germany
2007	Science Award of the German Society of Anesthesiology and Critical Care Medicine "DGAI Forschungsstipendium der Freseniusstiftung", highest possible science award of the German Society of Anesthesiology and Critical Care Medicine
2007	Participant of the 57th Meeting of Nobel Laureates in Lindau
2008	Science Award of the German Society of Anesthesiology and Intensive Care Medicine "DGAI Dräger Preis", highest possible science award of the German Society of Anesthesiology and Critical Care Medicine in the field of critical care medicine
2008	Journal of Clinical Investigation research article highlighted in *Nature Reviews*
2009	Travel Award ILTS (International Liver Transplantation Society), New York 2009
2010	Permanent Residency via Outstanding Professor/Researcher Category (EB-1)
2010	Selected for oral presentation: 'Adenosine dependent Period 2 stabilization leads to metabolic adaptation during myocardial ischemia'. Keystone Meeting 2010, Hypoxia: Molecular Mechanisms of Oxygen Sensing and Response Pathways.
2011	Selected oral presentation: 'Mucosal HIF in Acute Lung Injury'. ATS Meeting 2011.
2011	Invited Speaker IARS (International Anesthesia Research Society) Meeting Vancouver: 'Myocardial Metabolism as Target for the Treatment of Heart Ischemia'
2011	Academic Editor, Plos *One*
2011	Editorial Board Member, Plos *One*
2011	*Invited Nature Medicine Review (1394 citations)*
2012	Nature Medicine Article highlighted in *Cell Metabolism*
2012	Nature Medicine Article highlighted in *Circulation Research*
2012	Nature Medicine Article highlighted in *Science Daily*
2012	Nature Medicine Article highlighted in *Mens's Health*
2012	*9NEWS* live interview on Nature Medicine Publication
2013	Nominated as one of the most amazing and inspiring mentor and instructor from the graduated 4th year medical students during their years
2014	NHLBI Workshop (NIH 'advisor'): 'Circadian Clock at the Interface of Lung Health and Disease'
2014/2015	Invited Guest Editor, Curr Pharm Des, 'Special Edition'
2015	Editorial Board International Journal of Anesthesiology & Research

2015	Editorial Board International Archives of Case Reports in Clinical Medicine
2015	Selected oral presentation: 'Light therapy at the interface of circadian proteins and lung disease, ATS Meeting 2015.
2015	Membership nomination for the Association of University Anesthesiologists (AUA)
2015	Invited speaker and session moderator at Shock Conference 2015.
2015	Invited Review Article: *Clinical Concepts* in Anesthesiology; *Featured Article*
2016	Invited Speaker at the 38th SCA (Society of Cardiovascular Anesthesiologists) Annual Meeting
Since 2017	AHA Study Section Member
2020-2021	Adjunct member of the ASA Committee on Research
2019	Sigma Xi member nomination
2020	FAER Grant Review Committee (May and September)
2020	NIH SAT study section ad hoc reviewer
2020	Invited Speaker 2020 En Route Care Research Symposium
2020	Invited Speaker 2020 COMBAT Research Symposium
2021	Invited Forum Article, *Trends in Molecular Medicine*
2021	FAER Grant Review Committee (May and September)
2021-Present	Editorial Board Member Annals of Translational Medicine
2021-2022	Reappointment as Adjunct member of the ASA Committee on Research
2022	Associate Editor Frontiers in Cardiovascular Medicine
2022	ATM Editor Special Edition ("Highlights in Anesthesia and Critical Care Medicine")
2022	Invited Talk at the 9th North American Session of The International Academy of Cardiovascular Sciences "Advances in Cardiovascular Science and Medicine Through Diversity, Equity, and Inclusion supported Education, Research, and Technology Innovation."
2023	Invited Distinguished Professor, Canadian Society for Chronobiology (CSC) "Timing is Everything", University of Guelph, in Guelph, Ontario, Canada
2023	Distinguished lecture award from the Canadian Society for Chronobiology
2023	Invited Speaker to the 70th Annual Meeting of the Japanese Society of Anesthesiologist
2023	Fellow of the American Society of Anesthesiology (FASA)
2023-2025	Adjunct member of ASA's Committee on Academic Anesthesiology

Professional Societies

2001-2008	German Association of Physicians
2005-2014	Member of the German Society of Anesthesia and Intensive Care Medicine (DAG)
Since 2007	Member of the American Society of Anesthesiologists (ASA)
Since 2008	Member of the Colorado Society of Anesthesiologists (CSA)
2009-2017	Member of the International Anesthesia Research Society (IARS)

2011	Member of the American Thoracic Society (ATS)
2015-2018	American Heart Association (AHA)
Since 2015	Association of University Anesthesiologists (AUA)
2016-2017	Member of the Society of Cardiovascular Anesthesiologists Foundation

Major Administrative Responsibilities

01/2006 - 01/2008	Faculty Board (committee of all faculty members, discusses matters that concern the Department of Anesthesiology and has the power of decision), Department of Anesthesiology and Intensive Care Medicine, University Hospital, Tübingen, Germany

Major Committee Assignments

01/2006 – 01/2008	Education Committee, Department of Anesthesiology and Intensive Care Medicine, University Hospital, Tübingen, Germany
01/2006 – 01/2008	Committee on Continued Medical Education, Department of Anesthesiology and Intensive Care Medicine, University Hospital, Tübingen, Germany
01/2006 – 01/2008	Search Committee for Anesthesia Residents and Fellows, Department of Anesthesiology and Intensive Care Medicine, University Hospital, Tübingen, Germany
01/2006 – 01/2007	Intensive Care Advisory Committee, Department of Anesthesiology and Intensive Care Medicine, University Hospital, Tübingen, Germany

Major Administrative Responsibilities and Committee Assignments at CU

01/2008 - present	Faculty Board (committee of all faculty members, discusses matters that concern the Department of Anesthesiology and has the power of decision), Department of Anesthesiology, CU
04/2008 – 2015	Virtue Scholar Committee, Department of Anesthesiology, CU
04/2008 – 2015	Seed Grant Committee, CU
01/2009 - 2015	Research Committee, Department of Anesthesiology, CU
01/2009 - 2015	Education Committee Meeting, Department of Anesthesiology CU
01/2011 - 2015	Administrative Enterprise Committee, Department of Anesthesiology CU
06/2011 - 2021	Examination Committee, Department Cell Biology, Stem Cells and Development, CU
06/2014 - 2016	Grand Rounds Development Group, Department of Anesthesiology, CU
03/2015 – 2016	CT Recruitment Committee, Department of Anesthesiology, CU
03/2015 – 2016	MD Finance Focus Group, Department of Anesthesiology, CU
Since 2015	Industry Review Committee, CU, Anschutz Medical Campus
2016	Retreat Committee Chair, Cell Biology, Stem Cells and Development, CU
08/2014 – 2017	Compensation Committee, Department of Anesthesiology, CU
01/2016 – present	Academic Time Committee, Department of Anesthesiology, CU
01/2018 – present	Director Grand Rounds, Department of Anesthesiology, CU
01/2018 – present	**Promotion Committee**, Department of Anesthesiology, CU

Since 2019	AUA membership nomination committee
07/2020 – present	**CU Faculty Senate Member**
08/2021- present	Medical Director Advanced Practice Providers
2022	Co-Chair FCOTS UCHealth

Licensure and Certification

07/2002	Certificate for qualification in radiation protection, Germany
01/2003	License to practice medicine, Germany
10/2003	Certificate for qualification in basic life support, advanced life support, advanced trauma life support, advanced pediatric life support, neonatal resuscitation program and certificate of CPR according to the guidelines of the American Heart Association and the European Resuscitation Council, Germany
07/2004	Certificate for qualification in animal experiments, Animal Welfare Officer, University Hospital of Tübingen, Germany
01/2007	Certificate for qualification in teaching medicine, Germany
10/2007	Diplomat, German Board of Anesthesiologists
10/2007 - 2015	Distinguished Physician Teaching (Medical) License CO, USA
11/2009 - present	Certificate for qualification in basic and advanced life support, American Heart Association (AHA)
11/2010	USMLE Step 1
09/2011	USMLE Step 2 CK
02/2012	USMLE Step 2 CS
04/2012	ECFMG Certification
03/2013	6th Annual Isotope Tracers In Metabolic Research, Principles and Practice of Kinetic Analysis (NIH)
09/2014	USMLE Step 3
10/2014	Certificate for Crucial Conversations Training
02/2015 - present	Full Medical License CO
10/2018	Diplomate of the American Board of Anesthesiology
2020	Certificate for '4 Disciplines of Execution' Training
2022-2023	IHQSE Foundations in Healthcare Leadership Program

Patents

2008	Therapeutical use of CD39 and C73 during ventilator induced lung injury: (WO 2008/034621) NUCLEOTIDE PHOSPHORYLASE FOR THE PROPHYLAXIS, TREATMENT OR DIAGNOSIS OF ACUTE LUNG INJURY (ALI)

http://www.google.com/patents/WO2008034621A3?cl=en

2008	Therapeutical use of CD39, C73 and A2BAR agonist during myocardial ischemia: (WO 2008/034623) MEDICAMENT FOR THE PROPHYLAXIS, TREATMENT OR DIAGNOSIS OF ISCHAEMIC DISEASES

http://www.google.com/patents/WO2008034623A3?cl=en

Provisional Patents under development at CU

2017	Treatment of midazolam induced delirium using flavonoid nobiletin.
2017	Treatment of myocardial ischemia using flavonoid nobiletin.

Review and referee work

Since 2009	Hepatology
Since 2009	Purinergic Signaling
Since 2009	Anesthesiology
Since 2009	Journal of Immunology
Since 2010	American Journal of Physiology – Heart
Since 2010	PlosOne
Since 2010	Journal of Biomedicine and Biotechnology
Since 2011	Circulation: Cardiovascular Quality and Outcomes
Since 2012	The Annals of Intensive Care
Since 2012	Anesthesiology Research and Practice
Since 2013	Circulation
Since 2013	BioMed Research International
Since 2013	Journal of Molecular Medicine (Berlin)
Since 2013	Critical Care Medicine
Since 2013	Cardiovascular Research
Since 2014	Journal of Translational Medicine
Since 2014	Seminars in Cardiothoracic and Vascular Anesthesia
Since 2014	British Journal of Pharmacology
Since 2014	American Journal of Respiratory Cell and Molecular Biology
Since 2015	Journal of Cardiovascular Pharmacology and Therapeutics
Since 2016	Heart Rhythm
Since 2016	JACC Basic Translational Research
Since 2017	Transplantation

Since 2017	Annals of Surgery
Since 2017	Journal of Immunology Research
Since 2017	PLOS Medicine
Since 2018	Scientific Reports
Since 2019	American Journal of Physiology – Renal Physiology
Since 2019	FASEB
Since 2020	Psychoendocrinology
Since 2020	Science Advances
Since 2020	Circulation: Cardiovascular Interventions
Since 2020	Journal of Cardiac Failure
Since 2021	Cell Reports

Grant Review/Study section

2009	Swiss National Science Foundation**,** Division Biology and Medicine
2011	FAER, USA
2013	Intramural Grants, UC Denver
2013	NIH Mouse Metabolic Phenotyping Center, USA
2014	Biotechnology and Biological Sciences Research Council (BBSRC), UK
2014	Medical Research Council (MRC)
2015	The National Institute of Academic Anaesthesia (NIAA)
2016	AUA/IARS abstract reviewer
2017-2020	AHA study section member (Cardiac Bio BSc)
2017	Reviewer for the Colorado Clinical and Translational Science Institute's (CCTSI) Pre-K Career Development Program during the 2017-2018
2017	Swiss National Science Foundation Grant Review
2017	AUA/IARS abstract reviewer

2018	California Northstate University College of Pharmacy Seed Grant External Reviewer Invitation
2018	AUA/IARS abstract reviewer
2019	DFG (Deutsche Forschunsgemeinschaft = German NIH equivalent) Grant Review
2019	AUA/IARS abstract reviewer
2020	Nevada IDeA Network of Biomedical Research Excellence (NV-INBRE) Grant Review
2020	AUA/IARS abstract reviewer
2020	FAER – Grant Reviews (Spring/Fall)
2020	NIH - SAT study section ad hoc reviewer
2020	ASA Resident Research Essay Contest Reviewer
2020	AHA International Stroke Conference 2021 abstract reviewer
2021	DFG (Deutsche Forschunsgemeinschaft = German NIH equivalent) Grant Review
2021	FAER – Grant Reviews (Spring/Fall)
2021	DoD (Department of Defense) Grant Review
2022	FAER – Grant Reviews (Spring/Fall)
2022	Swiss National Science Foundation Grant Review

Editor

Since 2011	Academic Editor Plos *One*
2014	Guest Editor, *Current Pharmaceutical Design* ('Special issue on circadian rhythms in critical illness')
Since 2021	Editor Annals of Translational Medicine
Since 2022	Associated Editor Frontiers in Cardiovascular Medicine

Editorial Board Member

Since 2011	Plos *One*
Since 2015	International Journal of Anesthesiology & Research
Since 2015	Archives of Case Reports in Clinical Medicine

2021 Annals of Translational Medicine

2022 Frontiers in Cardiovascular Medicine

Invited extramural lectures, presentations and visiting professorships

Local /national talks/Visiting Professor

Eckle T. Longitudinal Cytomegalovirus Resistance Screening in an Adult after PBSCT. Institute of Virology, University of Tübingen, Germany 1997.

Eckle T. Generation of Recombinant HCMV using overlapping Cosmids. Institute of Virology, University of Tübingen, Germany 2001.

Eckle T. Multidrug Resistance in children after PBSCT. Institute of Infectious Diseases. University of Tübingen, Germany 2002.

Eckle T. Risk factors for the emergence of drug resistant CMV infection in the pediatric and adult bone marrow transplant setting: pitfalls in phenotypic diagnosis. Jahrestagung der Gesellschaft für Virologie. Erlangen, 4. - 11. April 2002.

Eckle T. Pitfalls of Genotypic HCMV Drug Resistance Screening in Stem Cell Transplant Recipients. Annual Meeting of the "Gesellschaft für Virologie" and Joint Meeting with "Societa Italiana di Virologia", Tübingen, Germany 17-20 March 2004

Eckle T. Systematic evaluation of a novel model for cardiac ischemic preconditioning in mice. Clinic of Anesthesiology, University Hospital of Tübingen, Germany 2005.

Eckle T. The Role of Nucleotide Metabolism and Nucleoside Signaling in Ischemic Preconditioning of the Heart. Clinic of Anaesthesiology, University Hospital of Tübingen, Germany 2006.

Eckle T. The Role of Adenosine in Acute Lung Injury. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA 2008.

Eckle T. A murine model of acute lung injury: Ventilator Induced Lung Injury. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA 2008

Eckle T. HIF – A paradigm in cardioprotection. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA 2008

Eckle T. The role of HIF in Acute Lung Injury. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA 2009

Eckle T. Periods in Cardioprotection. Grand Rounds. Division of Cardiology, University of Colorado Denver, USA 2009

Eckle T. Cardioprotection by Adenosine A2B receptors. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, 2009.

Eckle T. Per2 stabilization by Cul1 deneddylation. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, 30 2009.

Eckle T. Adenosine-Dependent Stabilization of Period 2 Promotes Metabolic Adaptation of the Myocardium to Limited Oxygen Availability. Keystone, Hypoxia Meeting, January 22 2010.

Eckle. T. Period 2 promotes metabolic adaptation of the myocardium to limited oxygen availability". Symposium, Hypoxia, Ischemia and Inflammation. RC2, UC Denver, January 25th 2010.

Eckle. T. Academic Research. April 20 2010 Faculty Meeting Anesthesiology, UC Denver.

Eckle. T. Funding Mechanisms. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, April 29th 2010.

Eckle T. From Adenosine to Circadian Networks. **Columbia University, NY, USA, May 2010 (Visiting Professorship).**

Eckle T. Periods – Regulators of HIF. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, June 7th 2010.

Eckle T. Circadian Rhythm Proteins in the heart. Research Seminar, Cell Biology, June 9th 2010, UC Denver.

Eckle T., Neuroaxial Opioids, Volume Administration, Pain Management & Resuscitation. M&M/Clinical Case Conference, Anesthesia Department, June 1st 2010, UC Denver.

Eckle T. Metabolic Adaptation to heart ischemia. Faculty Retreat, Department of Cell Biology, Estes Park, October 2010.

Eckle T. Mechanisms of myocardial adaptation to cardiac ischemia. Division of Cardiology, Grand Rounds, January 2011.

Eckle T. Period 2 as key regulator of glycolysis during myocardial ischemia. Fort Collins **Colorado State University, Research Seminar, Department of Microbiology, April 2011. (Visiting Professorship)**

Eckle T. Hypoxia Inducible Factor 1 in Acute Lung Injury. ATS Meeting May 2011, Denver, USA.

Eckle T. Circadian Control of Heart Metabolism. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, April 2012.

Eckle T. Period 2 in Cardiovascular Disease. Department of Pediatrics, University of Colorado Denver, USA, April 2012.

Eckle T. Adora2b-elicited Per2 stabilization promotes a HIF-dependent metabolic switch crucial for myocardial adaptation to ischemia. **Research Symposium NIH, Bethesda, NIH-NHLBI, USA, July 2012. (Visiting Professorship)**

Eckle T. Circadian Rhythms in Metabolic Adaptation to heart ischemia. Faculty Retreat, Department of Cell Biology, Estes Park, October 2012.

Eckle. T. HIF in Acute Lung Injury. Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, USA, April 16th 2013.

Eckle T. Normoxic HIF1A stabilization attenuates acute lung injury by optimizing alveolar epithelial carbohydrate metabolism. Research Seminar, Department of Pulmonology, University of Colorado Denver, USA, May 6th 2013.

Eckle T. Circadian Rhythms in Anesthesia and Critical Care Medicine: A new Period evolves, Grand Rounds, Department of Anesthesiology, **Duke University, USA, February 3-5 2014 (Visiting Professorship).**

Eckle. T. Circadian Control of Cardiac Metabolism. CT Conference. Department of Anesthesiology, Duke University, USA, February 3-5 2014 (Visiting Professorship).

Eckle. T. Circadian mechanisms of hypoxia response and cellular adaptation in ischemia/reperfusion. **NHLBI Workshop: "Circadian Clock at the Interface of Lung Health and Disease", April 28-29, 2014, Rockledge II, Bethesda, MD. (Visiting Professorship).**

Eckle. T. Clock Genes & Myocardial and Adaptation to Ischemia. Colorado Sleep and Circadian Research Symposia, June 10, 2014, **University of Boulder. (Visiting Professorship).**

Eckle T. Light elicited Per2 in cell metabolism. Faculty Retreat, Department of Cell Biology, Breckenridge, October 2014, USA.

Eckle. T. Intense Light Therapy for Perioperative Cardio-Protection. DOM Research & Innovation Conference Presentation, Denver, USA, October 30, 2014.

Eckle T. Circadian Rhythms in Critical Illness, Grand Rounds Anesthesiology, Denver, USA, February 23th 2015

Eckle T. Light therapy at the interface of circadian proteins and lung disease. May 18, 2015, ATS, Denver, CO, USA.

Eckle. T. Light and Period 2 – effects of light on metabolism. Colorado Sleep and Circadian Research Symposia, June 1, 2015, **University of Boulder. (Visiting Professorship).**

Eckle. T. Intense Light Therapy for Cardiac Protection. June 7th, 2015, 38th Annual Conference on Shock, Denver, CO, USA.

Eckle, T. Light at the interface of circadian proteins and acute lung injury. October 6th, 2015, Translational Cardiovascular Biology Conference, Denver, CO, USA.

Eckle T. Per2 in acute lung injury. Faculty Retreat, Department of Cell Biology, Breckenridge, October 9th, 2015, USA.

Eckle T. ARDS following thyroid surgery. M&M Grand Rounds Anesthesiology, Denver, USA, December 7th, 2015.

Eckle T. Light elicited mechanisms in acute lung injury. OPP Research Talk, Denver, USA, December 9th, 2015.

Eckle T. Light Elicited Cardioprotection. Cardiology Grand Rounds Lecture, Friday, January 22 2016, Denver, USA.

Eckle T. Light elicited Per2 in acute lung injury. OLAR meeting March 8th, 2016, Denver, USA.

Eckle T. Cellular effects of hypoxemia - Research Update. TAS San Diego 2016 Annual Meeting - Society of Cardiovascular Anesthesiologists. April 1-2, 2016, San Diego, USA.

Eckle T. Light at the interface of circadian proteins and acute lung injury, Medicine Research Seminar National Jewish Health, October 2016.

Eckle T. Adenosine Illuminated, Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, November 2016.

Eckle T. Adenosine Illuminated – Circadian Rhythms in Organ Protection, **Columbia University, NY, USA, December 2016 (Visiting Professorship).**

Eckle T. Circadian proteins and acute lung injury, Mucosal Inflammation Program Research talk, University of Colorado Denver, January 2017.

Eckle T. Circadian Rhythms and Disease Development. T32 Training Grant Seminar Series, Otolaryngology, Invited Speaker, February 2017.

Eckle T. Circadian Rhythms in Disease Development. Translational Cardiovascular Biology Conference, University of Colorado Denver, Invited Speaker, October 10 2017.

Eckle T. Light elicited ATII-PER2 in ALI, Mucosal Inflammation Program Research talk, University of Colorado Denver, January 2018.

Eckle T. Circadian endothelial metabolic reprogramming, Mucosal Inflammation Program Research talk, University of Colorado Denver, February 2019.

Eckle T. Circadian light-mediated organ protection, Anesthesiology Research Seminar. Department of Anesthesiology, University of Colorado Denver, February 2019.

Eckle T. Targeting Circadian Rhythms as Organ Protective Strategy. Grand Rounds Anesthesiology, Denver, USA, June 10th, 2019.

Eckle T. M&M**.** Grand Rounds Anesthesiology, Denver, USA, October 14th, 2019.

Eckle. T. Grand Rounds. Targeting Circadian Rhythms as Organ Protective Strategy, **Cornell University, NY, USA, January 2020 (Visiting Professorship).**

Eckle T. Intense light pretreatment improves hemodynamics, barrier function and inflammation in a murine model of hemorrhagic shock lung 2020 En Route Care Research Symposium. 24-26 August 2020.

Eckle T. Intense light to treat hemorrhagic shock lung. 2020 COMBAT Research Symposium. October 29-30 2020.

Eckle. T. Grand Rounds. Targeting Circadian Rhythms as Organ Protective Strategy, **Oak Hill Hospital Anesthesia Didactics Presentation, FL, USA, December 10 2021 (Visiting Professorship).**

National/competitive talks (meeting where talk was given to compete for an award)
Eckle T. The Role of Ecto-5'-Nucleotidase (CD73) in Ischemic Preconditioning of the Heart. 21. Wissenschaftliche Arbeitstage der DGAI in Würzburg, Germany 2006.

Eckle T. Cardioprotection of E-NTPDase1 (CD39) in Acute Myocardial Infarction. 22. Wissenschaftliche Arbeitstage der DGAI in Würzburg, Germany 2007.
→ ***Fresenius Award***

Eckle T. Cardioprotection by ecto-5'-nucleotidase (CD73) and A2B adenosine receptors. TSIS 2007 München, Germany 2007. → ***Draeger Award***

Eckle T. Adenosine and Cardioprotection DAC 2007, Hamburg, Germany 2007

Eckle T. Extracellular adenosine production by ecto-5'-nucleotidase protects during murine hepatic ischemic preconditioning. NY, ILTS, USA, 2009. → ***Travel Award***

International talks/Visiting Professor
Eckle T. Molekularer Nachweis der initialen in vitro Selektion von HCMV-UL97-Wildtyp oder Mutante bei einer Patientin nach peripherer Blutstammzelltransplantation. Jahrestagung der Gesellschaft für Virologie. Wien, Österreich, 2000.

Eckle T. Transcriptional and Metabolic Control of Cardiac Adenosine Signaling: Implications for Cardioprotection. **University of Colorado Health Science Centre, Denver, USA 2007. (Visiting Professorship)**

Eckle T. Aprotinin – History of a dangerous drug. Clinic of Anaesthesiology, University Hospital of Tübingen, Germany 2008. (Visiting Professorship)

Eckle T. Adenosine in Tissue Adaptation to Hypoxia, Clinic of Anaesthesiology, **University Hospital of Tübingen, Germany 2008. (Visiting Professorship)**

Eckle T. Circadian Rhythm Proteins Outside **The Brain. Institute of Neurology (Edinger), University Hospital of Frankfurt, Germany, Jun 29th, 2010. (Visiting Professorship)**

Eckle T. Light dependent Per2 mediates a metabolic switch critical for myocardial ischemia. **German Anesthesia Meeting (DAC 2010), Nurnberg June 22, 2010. (Visiting Professorship)**

Eckle T. Circadian Rhythms in Cardioprotection. Grand Rounds. **Clinic of Anaesthesiology, University Hospital of Tübingen, Germany 2010. (Visiting Professorship)**

Eckle T. HIF during Ventilator Induced Lung Injury. German Anesthesia Meeting (DAC 2010), Nürnberg June 22 2010.

Eckle T. Myocardial Metabolism as Target for the Treatment of Heart Ischemia. IARS Meeting May 2011, Vancouver, Canada.

Eckle T. Impact of intense light therapy in the perioperative setting. Grand Rounds, Department of Anesthesiology, **University Hospital of Munich, Germany, Jun 25th 2013. (Visiting Professorship)**

Eckle T. Per2 in cardiac metabolism. Grand Rounds. Clinic of Anaesthesiology, University Hospital of Tübingen, Germany 2013.

Eckle T. Per2 during hypoxia and myocardial ischemia in humans. Keynote speaker, Institute of Neurology (Edinger), **University Hospital of Frankfurt, Germany, July 2nd 2013. (Visiting Professorship)**

Eckle T. Light elicited Cardioprotection, Department of Anesthesiology**, University Hospital of Munich, Germany, August 3rd 2016. (Visiting Professorship)**

Eckle T. The Circadian Hypoxia Link. 9th North American Session of The International Academy of Cardiovascular Sciences "Advances in Cardiovascular Science and Medicine Through Diversity, Equity, and Inclusion supported Education, Research, and Technology Innovation"**. September 6-9, 2022 in Winnipeg, Canada(Visiting Professorship)**

Eckle T. Health implications of disrupted circadian rhythms and the potential for daylight as therapy. **70th Annual Meeting of JSA, which will be held from June 1 – 3 2023, Kobe, Japan**

Eckle T. From bench to bedside: circadian principles applied. **Canadian Society for Chronobiology Conference "Timing is Everything"; University of Guelph, Ontario, Canada. June 14-15, 2023, (Visiting Professorship)**

Teaching

07/1997-04/2004	Cellular and Molecular Biology courses for PhD students at the Institute of Virology, University of Tübingen 20 students 2 hours lecture per week, 9 weeks (total 18 hours lecture) 2 hours preparation per lecture (18 hours total preparation)
07/2001-01/2008	Medical school courses at the University Hospital of Tübingen (practical courses and lectures in emergency medical aid, general anesthesia, specialized anesthesia and basic science)
	2001 – 2007 Emergency medical aid Eberhard-Karls-University Tübingen 105 students 1-hour lecture per week, 9 weeks (total 9 hours lecture)

1-hour preparation per lecture (9 hours total preparation)

2001 – 2007 General anesthesia
Eberhard-Karls-University Tübingen
50 students
2 hours lecture per week, 12 weeks (total 24 hours lecture)
2 hours preparation per lecture (24 hours total preparation)

2004 – 2007 Specialized anesthesia
Eberhard-Karls-University Tübingen
50 students
1-hour lecture per week, 2 weeks (total 2 hours lecture)
2 hours preparation per lecture (4 hours total preparation)

2004 – 2007 Hemodynamic Monitoring
Eberhard-Karls-University Tübingen
45 students
2 hours lecture per week, 4 weeks (total 8 hours lecture)
2 hours preparation per lecture (8 hours total preparation)

2004 – 2007 Basic Science in Anesthesiology
Eberhard-Karls-University Tübingen
40 students
2 hours lecture per week, 12 weeks (total 24 hours lecture)
2 hours preparation per lecture (24 hours total preparation)

01/2008 - present

Courses in Basic Science Research, bedside teaching of residents and medical students, lectures on current research topics at UC Denver

2008 – present, training in basic science research
UC Denver
16 hours per week

2008 – present, supervision and bedside teaching of residents, 'Resident Program Anesthesiology'
UC Denver
8 hours per week

2008 – present, 'Research in Progress' -MIP (Mucosal Inflammation Program)
UC Denver
0.5-hour lecture per week

2008 – present, 'Research Seminar Anesthesiology'
UC Denver
0.5 hours lecture per week

2010 - 2012 Integrated Clinicians Course (ICC) 7001 for medical student (IV/Intubation)
*0.5**-hour*** lecture per week

2010 – 2015, 3rd year medical students on Preoperative Care, Airway Management and Resuscitation, *IDPT 7050*
*0.5**-hour*** lecture per week

2012 – 2014 Assistant Clerkship Director Medical Students

0.5-hour lecture per week
2013 – 2016, 'Research in Progress' - OPP (Organ Protection Program), CU
0.5-hour lecture per week
2014 - present, DOM Research & Innovation Conference
0.5 hours lecture per week
2014 – present, Translational Cardiovascular Biology Conference, 0.5 hours lecture per week
2008 1 x 'Grand Round Anesthesiology', CU
2009 1 x 'Grand Round Cardiology', CU
2012 1 x 'Grand Round Cardiology', CU
2013 1 x 'Grand Round Anesthesiology', CU
2014 1 x 'Grand Round Anesthesiology', CU
2015 2 x Grand Round Anesthesiology', CU
2016 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2016 Resident lecture core curricula
(2.h lecture)
2017 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2017 Resident lecture core curricula
(2.h lecture)
2018 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2018 Resident lecture core curricula
(2.h lecture)
2019 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2019 Resident lecture core curricula
(2.h lecture)
2019 2 x Grand Round Anesthesiology'
UC Denver
2020 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2020 Resident interactive teaching group 'General Anesthesia'
2020 Mentor for anesthesia resident training program (group of 6 residents)
2020 Resident lecture core curricula
(2.h lecture)
2021 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2021 Resident lecture core curricula
(2.h lecture)
2022 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
2022 Resident lecture core curricula
(2.h lecture)
2022 1 x 'Grand Round Anesthesiology', CU
2023 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director

Teaching Videos

http://www.jove.com/video/2526/use-of-a-hanging-weight-system-for-coronary-artery-occlusion-in-mice
Metrics: Seen by over **360** institutions worldwide. November 2017 cumulative views **15,223**

https://www.jove.com/video/2525/pressure-controlled-ventilation-to-induce-acute-lung-injury-in-mice
Metrics: Seen by over **330** institutions worldwide. November 2017 cumulative views **11,499**

Past Trainees (PhD thesis with summa cum laude only)

Katharina Goehring, BS: PhD Thesis: Entwicklung neuer genotypischer Analyseverfahren zur Detektion der Virostatikaresistenz humaner Cytomegaloviren.

Lars Fuellbier, MD: PhD Thesis: Role of nucleotide phosphohydrolysis in modulating ventilator-induced lung injury.

David Koehler, BS: PhD Thesis: Protective role of extracellular ATP/ADP-phosphohydrolysis in myocardial ischemia.

Melanie Falk, MD: PhD Thesis: Evaluation of a novel of cardiac ischemic preconditioning and role of ecto-5'-nucleotidase in ischemic preconditioning of the heart.

Anne-Kathrine Stenz, MD: PhD Thesis: Pro-inflammatory role of P2Y6 receptor signaling during vascular inflammation.

Colleen Bartman, BS (UC Denver): PhD Thesis: MECHANISMS OF CIRCADIAN RHYTHM PROTEIN PERIOD2 IN CARDIOPROTECTION

Current and Past Mentees at UC Denver

Laura Ivan BS, Michael Koeppen MD, Jessica Bauerle BS, Katherine Hartmann BS, Carol Aherne PhD, Emily Kewley PhD, Eric Clambey PhD, Leslie Cabrera BS, Joseph Westrich BS, Stephanie Bonney BS, Susie Reithel BS, Megan Bonney BS, Kelly Hughes BS, Merit Gobel BS, Seo, Seong-Wook, PhD, Jens Poth, MD, Viola Dengler, MD, Lindsay Weitzel, PhD, Anja Frank, MD, Sandra Hoegel, MD, Andreas Redel, MD, PhD, Molly Thayer, BS, Benjamin Scott, MD, Jason Brainard, MD, Karsten Bartels, MD, Daniel Sehrt, MD (Medical Student/FAER program), Colleen Bartman, BS (Graduate Student), Meagan Johnson (Intern, High School), Sara Shahid, MS, Doug Kominsky, PhD, Christine Vohwinkel, MD, Stephanie Bonney BS (Graduate Student), Christine Tompkins, MD (Cardiology Fellow), Jennifer Gile, BS (Medical Student), Oyama Yoshimasa, MD, PhD (Research Fellow), Mellissa Delcont (MD/PhD Candidate/ Preceptor clinical), Alexander Kolb, PhD (Postdoc), Justin Blaskowsky (Modern Human Anatomy Program, Capstone Project 2017/18), Damon Wallace, MD (Clinical Mentor FAER Summer Student 2017), Andrea Hess (Mentor FAER Summer Student 2018), Madelyn Voorhees (College Student, Clinical Mentor 2018), Abigail Schirmer (Clinical Mentor FAER Summer Student 2019), Sahand Fallahi (college graduate 2019), Sydney Shuff, BS (PRA 2019), Alexis Nicole Thomson (College Student, Clinical Mentor 2019), Meghan Prin, MD (2021, Clinical Faculty), Simmons Colby, MD (2022, Clinical Faculty), Mario Villasenor, MD (2022, Clinical Faculty), Jeremy Bengson, MD (2022, Clinical Faculty). Julia Bertazzo, MD (Visiting Researcher from Brazil).

PhD student thesis committees (CSD program, CU):
Stephanie Bonney BS
Colleen Bartman, BS
Taylor Wallace, BS
Ian Stancil, BS

Examples of outstanding careers based on mentoring:

Andreas Redel, MD, postdoc 2006-2008, now Professor and Chair
2 publications based on training and mentoring efforts:
http://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+redel

David Kohler, PhD postdoc 2005-2008, now Assistant Professor and research group leader
8 publications based on training and mentoring efforts:
http://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+kohler
Awards based on acquired animal surgery model and mentoring efforts:
http://gepris.dfg.de/gepris/projekt/189935024
http://gepris.dfg.de/gepris/projekt/242031561

Michael Koeppen, MD postdoc 2009-2012, now Associate Professor and research group leader
17 publications based on training and mentoring efforts:
http://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+koeppen
Awards based on acquired animal surgery models and mentoring efforts:
http://www.klinikum.uni-muenchen.de/de/aktuelle_startseite/ehrung-preise/130318_hansepreis.html
Grants (DFG training grant similar to NIH K08 training grant) based on mentoring:
http://gepris.dfg.de/gepris/projekt/177863205/ergebnisse

Carol Aherne, PhD, Postdoc 2008-2012, now Assistant Professor with NIH K award based on mentoring
http://projectreporter.nih.gov/project_info_details.cfm?aid=8724493&icde=24477922&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC
1 publication based on training and mentoring efforts:
https://pubmed.ncbi.nlm.nih.gov/31390562/

Doug Kominsky, PhD, Instructor 2008-2012, now Associate Professor with NIH R01 award based on mentoring
http://projectreporter.nih.gov/project_info_details.cfm?aid=8893976&icde=24477931&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC
3 publications based on training and mentoring efforts:
https://pubmed.ncbi.nlm.nih.gov/?term=eckle+Kominsky&sort=date

Colleen Bartman, **PhD**, graduate student 2015-2018, now postdoctoral fellow at Mayo Clinic, Rochester
ARCS Scholarship 2017
AHA Predoc Grant 2016
CCTSI Grant 2015
6 publications based on training and mentoring efforts:
https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+bartman

Stephanie Bonney, BS, PRA 2010-2013, PhD graduate student 2013-2019 (Cell Biology, Stem Cells and Development, UC Denver, Colorado, USA), now postdoctoral fellow at Seattle Children's.
11 publications based on training and mentoring efforts:
https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+bonney
NIH Award based on acquired animal surgery models and mentoring efforts:
1F31NS100565-01A1 Contact PI / Project Leader: BONNEY, STEPHANIE
Title: VASCULAR INSTABILITY IN ENCEPHALITIS

Christine Vohwinkel, MD, Assistant Professor, mentoring on current NIH K08
1 publication based on training and mentoring efforts:
https://pubmed.ncbi.nlm.nih.gov/33687752/

Jennifer Gile, BS (Medical Student), Research Fellow 2016-2018, now Resident Mayo Clinic
Senior Alpha Omega Alpha member 2018
ARCS Scholarship 2016
DREAM award 2016
5 publications based on training and mentoring efforts:
https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+gile

Yoshimasa Oyama MD, PhD, Postdoc 2016-2019, now faculty and Assistant Professor at Oita University, Japan
2019 AHA Postdoctoral Fellowship
12 Publications based on training and mentoring efforts:
https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+oyama

Sydney Shuff, BSN, PRA 2019-2020, MD applicant
4 publications based on training and mentoring efforts:
https://pubmed.ncbi.nlm.nih.gov/?term=eckle+shuff&sort=date

Current grant support

NHLBI-R56HL156955 (2022-2024)
"Targeting the endothelial clock to treat perioperative myocardial ischemia"
382 000 US $
Status: PI

NIH-NIA 1R03AG078956 GEMSSTAR (2022-2024)
"Circadian Diurnal Motor Synchrony and Delirium Amongst Older Cardiac Surgery ICU Patients"
225 000 US $
Status: Mentor, PI: Meghan Prin, MD

SCA Starter Grant (2022-2024)
"Circadian Movements and Delirium in Older Cardiac Surgery ICU Patients"
50 000 US $
Status: Mentor, PI: Meghan Prin, MD

Department of Anesthesiology Seed grant 2022-2024
'Bright light therapy in ICU patients.'

20 000 US $
Status PI

Completed grant support.

Department of Anesthesiology Bridge funds 2020-21
US $ 50K
Status PI

Deans CU-SCOM Bridge Funds 2020-21
US $ 50K
Status PI

NIH-NHLBI, R01-HL122472 (2015-2021, Score 19, Percentile 2)
'Intense Light Therapy for Perioperative Cardio-Protection'
1.9 Mio US $
Status PI

AHA-Postdoctoral Fellowship, 19POST34380105 (2019-2020)
'Angiopoietin-like 4 as a cardioprotective target in light-elicited circadian PER2 amplitude enhancement'
114,368 US $
Status: Mentor, PI: Yoshimasa Oyama MD, PhD

AHA-Predoctoral Fellowship, 16PRE27250077 (2016-2018)
'The role of intense light in hypoxic cardiac metabolism'
52 000 US $
Status: Mentor, PI: Colleen Bartman (PhD Graduate)

DREAM Grant (CU Denver): Impact of daylight on circadian rhythms and plasma protein expression (Summer 2016)
Status: Mentor, PI: Jennifer Gile (Medical Student)

CCTSI Grant: 'Intense Light as a Novel Treatment in Myocardial Ischemia' (2015-2016)
25K US $
Status: Mentor, PI: Colleen Bartman (PhD Graduate)

UC Denver 'Deans Office' Research Award (2015-2016)
25 000 US $
Status PI

NIH-NHLBI, K08-HL102267-01 (2010-2015, Score 20, funded at first submission)
"Period in Cardio-Protection"
650 000 US $
Status PI

NIH-NHLBI R01 HL098294 (PI: Eltzschig, 2011-2015)
'Hypoxia Inducible Factor in Acute Lung Injury'
2.0 Mio US $
Status: Co-Investigator

FAER Grant 'Medical Student Anesthesia Research Fellowship Program' (**PI: Daniel Sehrt, 2014**)
Mentor: Tobias Eckle
3 200 US $

R01 HL092188-01 NHLB (PI: Eltzschig, 2009-2013)
NIH-NHLB
Extracellular Adenosine during Ventilator Induced Lung Injury
1.8 Mio US $
Status: Co-Investigator

AHA SDG (National Scientist Development Grant, **2009-2010**):
Equilibrative Nucleoside Transporters (ENTs) in Cardiac Ischemic Preconditioning
308 000 US $
Status PI

MRTG FAER Grant (Foundation for Anesthesia Education and Research Grant, **2009-2010**):
Myocardial Ischemic Preconditioning through Hypoxia Inducible Factor (HIF)-1
215 000 US $
Status PI

IZKF Grant (Universitäts-Klinikum Tübingen): Role of Nucleotide Phosphohydrolysis and Adenosine Signaling in Ischemic Preconditioning of the Heart (**2006-2008**)
530 000 US $
Status **PI**

IZKF Promotionskolleg (Universitäts-Klinikum Tübingen, **2007-2008**)
10 000 US $
Status **PI**

Fortüne Grant (Universitäts-Klinikum Tübingen**):** Generation of HCMV UL54/UL97 Mutants for the analysis of drug resistance (**2003-2004**)
60 000 US $
Status **PI**

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Publications (Peer-Reviewed, Current H- Index: 41, over 10,000 citations.)

https://scholar.google.com/citations?user=QeAbWicAAAAJ&hl=en

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Infect Dis 187:139-43.

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6) Eltzschig HK., **Eckle T.**, Felbinger TW. 2004. Management of chronic obstructive pulmonary disease. N Engl J Med. Sep 30;351(14):1461-3.
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57) **Eckle T,** Shuff S, Maddry JK, Schauer SG, Bebarta VS, Intense Light Pretreatment Improves Hemodynamics, Barrier Function, and Inflammation in a Murine Model of Hemorrhagic Shock Lung. COMBAT Research Symposium (29 OCT 2020)

58) Bengson, J, **Eckle T.** Near Miss Event Due to An Unexpected Airway Complication in A Patient with Brain Injury. Medically Challenging Cases III. Sunday Oct 10, 2021, 10:00 AM - 12:00 PM. ASA Anesthesiology annual meeting October 2021, San Diego, USA.

59) **Tobias Eckle**, Yoshimasa Oyama and Lori Walker. Intense light elicited therapies in murine myocardial ischemia and reperfusion injury. AUA 2023 Annual Meeting, April 13-14.

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