

Curriculum Vitae

Biographic Data

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

Education

08/1991-06/1993 Abitur (College): **summa cum laude (Salutatorian)**
 07/1993-06/1994 **Military duty (military medics) – Group leader**
 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 (unlimited) **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
06/2012
10/25/2018
02/24/2023

Medical Boards USA
Entry into the four-year Alternate Path of the American Board of Anesthesiology
Diplomate of the American Board of Anesthesiology
Fellow of the American Sociate of Anesthesiology (FASA)

Academic Appointments

08/2006-08/2007
01/2006-01/2008
01/2008-06/2010
04/2008
06/2008-2016
2010-2016
2010-2016
2010-2016
2012-2014
2016
Since 2018
2020-2025
Since 2021

Clinical Fellow in Anesthesia, Department of Anesthesiology and Intensive Care Medicine, University Hospital of Tübingen
Assistant Professor of Anesthesia and Research Group Leader at Tübingen University Hospital, Germany
Assistant Professor of Anesthesiology, University of Colorado, USA
Promotion to **Privatdozent (Full professor status) in Anesthesia**, Tübingen University Hospital, Germany
Director for Resident Training in Basic Science Research, University of Colorado, USA
Associate Professor of Anesthesiology, University of Colorado, USA
Associate Professor of Cardiology, University of Colorado, USA
Associate Professor of Cell Biology, Stem Cells and Development, University of Colorado at Denver, USA
Assistant Clerkship Director for 3rd year Medical Students
Professor of Anesthesiology, Cardiology and Cell Biology, University of Colorado, USA
Director of Grand Rounds, Department of Anesthesiology
Adjunct member of the ASA Committee on Research
Medical Director of Advanced Practice Providers (120 CRNAs [Certified Registered Nurse Anesthetist], AAs [Anesthesiologist Assistant]); as Medical Director of APPs, I was instrumental in the implementation of a jeopardy call system, and the re-creation of "Insights", a software tool within Qgenda to understand the workload for APPs. I further created the "APP of the month" and helped to initiate a schedule system redesign. I conducted several surveys which I used to improve the structure for APP's with the help of the CO-Chief (created core groups for subspecialties) Savita Sharma. I further wrote the organizational chart for APPs, initiated having CO-leads at peripheral facilities and I also participated in all CO-Lead interviews. I designed a new FTE reduction matrix and was

instrumental in helping APPs to get their FTE reduction. To further foster a collaborative, supportive, inclusive, and optimistic work environment, I started having one-on-one meetings with all APPs. I have evaluated the one-on-one meetings and presented the results to the leadership. This has tremendously helped to stabilize the APP workforce. Due to these efforts, we have created an APP workforce that is more motivated, happier and more invested in the department. I have further started the initiative to implement the positive intelligence program for APPs.

Since 2023 Associate ***Vice Chair of Faculty Development*** (Vice Chair role for the adult faculty, includes mentoring of 80 attendings)
 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 (PRA) 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
 2010, 2021, 2022 **Anesthesia Expert Witness** (2 x deposition)

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 Nominated 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
- 2017-2020 AHA Study Section Member
- 2020-2025 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, 2024 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
2024	NIH SAT study section ad hoc reviewer
2024	Invited research review article on circadian rhythms as therapy in heart diseases for <i>Circulation Research</i> (the official journal of the American Heart Association and its Council on Basic Cardiovascular Sciences, Impact Factor 2021: 23)
2024	CU nomination to the <i>National Society of Leadership and Success (NSLS)</i>
2024-2025	Member of ASA’s Committee on Research
2024	Featured distinguished editorial board member <i>Annals of Translational Medicine</i>
2024	Editorial board Member <i>Scientific Reports</i>

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

Major Administrative Responsibilities, University Hospital, Tübingen

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, University Hospital, Tübingen

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, Committee and Leadership 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 (120 CRNAs, AAs)
2022	Co-Chair FCOTS (First Case On Time Start) UCHealth
Since 2023	Associate Vice Chair of Faculty Development (Vice Chair role for the adult faculty, includes mentoring of 80 attendings)

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 (Institute for Healthcare Quality, Safety and Efficiency) Foundations in Healthcare Leadership Program
2023-2024	Team Positive Intelligence Program
2023 – present	Individual Positive Intelligence 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
Since 2024	Communications Biology

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 Forschungsgemeinschaft = 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 Forschungsgemeinschaft = 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
2023	Grant Review for the United Arab Emirates University (UAEU)
2024	NIH - SAT study section ad hoc reviewer
2025	FAER – Grant Reviews (Spring/Fall)
<u>Editor</u>	
Since 2011	Academic Editor <i>Plos One</i>
2014	Guest Editor, <i>Current Pharmaceutical Design</i> ('Special issue on circadian rhythms in critical illness')
Since 2021	Editor <i>Annals of Translational Medicine</i>
Since 2022	Associated Editor <i>Frontiers in Cardiovascular Medicine</i>

Editorial Board Member

Since 2011	<i>Plos One</i>
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
2024	Scientific Reports

Invited to 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 Cull1 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 (Japanese Society of Anesthesiology), June 1 – 3 2023, Kobe, Japan, (Visiting Professorship)**

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
- 2023 Resident lecture core curricula
(2.h lecture)
- 2024 Resident lecture core curricula
(2.h lecture)
- 2024 AA class (Anes & Co-Existing Diseases I 001)
6 x 2h lecture (12 h), Course Director
- 2024 1 x 'Grand Round Anesthesiology', CU

Teaching Videos

<http://www.jove.com/video/2526/use-of-a-hanging-weight-system-for-coronary-artery-occlusion-in-mice>

Metrics: Seen by over **120** institutions worldwide. March 2024 cumulative views **21,253**

<https://www.jove.com/video/2525/pressure-controlled-ventilation-to-induce-acute-lung-injury-in-mice>

Metrics: Seen by over **160** institutions worldwide. March 2024 cumulative views **17,892**

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 only

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 Sehart, 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/Postdoc), Simmons Colby, MD (2022, Clinical Faculty), Mario Villasenor, MD (2022, Clinical Faculty), Jeremy Bengson, MD (2022, Clinical Faculty), Julia Bertazzo, MD (2024, Visiting Researcher from Brazil/Postdoc), Finneas Gordon (2024, undergraduate student, CU Boulder), Scott Vogel, MD (2024 Clinical Faculty), Julio Montejano, MD (2024, Clinical Faculty), Kelsey Repine, MD (Fellow)

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/ehrungepreise/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/>

Anja Frank, MD, Postdoc 2009-2013 now Assistant Professor of Anesthesiology, University of Würzburg, Germany

Publications based on training and mentoring efforts:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+frank>

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>

Kelly Hughes, BS, PRA 2012-2013, Law School, University of Boulder, Colorado, USA

Publications based on training and mentoring efforts:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+hughes>

Molly Thayer, BS, PRA 2013-2014, Medical School at UC Denver, Colorado, USA

Publications based on training and mentoring efforts:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+thayer>

Seo, Seong-Wook, PhD, Post-Doc 2012-2015, Anesthesia Resident, UNM, Albuquerque, New Mexico, USA

Publications based on training and mentoring efforts:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+seo>

Jason Brainard, MD, 2013-2017 Assistant Professor, now Associate Professor UC Denver, Colorado, USA,

departmental support (**clinical research/no bench work**)

Publications based on training and mentoring efforts:

<https://www.ncbi.nlm.nih.gov/pubmed/?term=eckle+brainard>

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), postdoctoral fellow at Seattle Children's, now Assistant Professor at CU.

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, Postdoc, 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, PhD student

4 publications based on training and mentoring efforts:

<https://pubmed.ncbi.nlm.nih.gov/?term=eckle+shuff&sort=date>

Julia Bertazzo, MD, PRA/Postdoc 2023 – 2024, now Postdoctoral Fellow in Cardiology

2 publications based on training and mentoring efforts.

<https://pubmed.ncbi.nlm.nih.gov/?term=eckle+bertazzo&sort=date&page=1>

Pending grant support

NHBLI-R01HL179526 (2025-2030)

Establish intense light therapy as a novel treatment for Myocardial Injury after non-cardiac surgery (MINS)

Status: PI

Current grant support

NHLBI-R56HL156955* (2022-2025)

“Targeting the endothelial clock to treat perioperative myocardial ischemia.”

382 000 US \$

Status: PI

***The NIH R56 award is a short-term, high-priority research grant**

Completed grant support.

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

AHA-Postdoctoral Fellowship, 20POST35210002 (2020-2022)
‘Clocks, Oxygen, and Neonatal Airway Disease’
128,836 US \$
Status: Mentor, PI: Colleen Bartman, PhD

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-Predocctoral 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 Sehart, 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

Bibliography

Publications (Peer-Reviewed, Current H- Index: 43, over 12,000 citations.)

Scholar.google.com

- 1) **Eckle T.**, Prix L., Jahn G., Klingebiel T., Handgretinger R., Selle B., Hamprecht K. 2000. Drug-resistant human cytomegalovirus infection in children after allogeneic stem cell transplantation may have different clinical outcomes. *Blood* 96:3286-9.
- 2) **Eckle T.**, Lang P, Prix L., Jahn G., Klingebiel T., Handgretinger H., Selle B., Niethammer D., Hamprecht K. 2002. Rapid development of ganciclovir-resistant cytomegalovirus infection in children after allogeneic stem cell transplantation in the early phase of immune cell recovery. *Bone Marrow Transplant* 30:433-9.
- 3) Hamprecht K., **Eckle T.**, Prix L., Faul C., Einsele H., Jahn G. 2003. Ganciclovir-Resistant Cytomegalovirus Disease after Allogeneic Stem Cell Transplantation:

- Pitfalls of Phenotypic Diagnosis by In Vitro Selection of an UL97 Mutant Strain. *J Infect Dis* 187:139-43.
- 4) **Eckle T.**, Jahn G., Hamprecht K. 2003. High Impact of an Expanded Restriction Fragment Length Polymorphism Assay on Detection of Ganciclovir-Resistant UL97 Mutants of Human Cytomegalovirus. *Antimicrob Agents Chemother* 47:442-3.
 - 5) **Eckle T.**, Jahn G., Hamprecht K. 2004. The influence of mixed HCMV UL 97 wildtype and mutant strains on ganciclovir susceptibility in a cell associated plaque reduction assay. *J Clin Virol* 30:50-6.
 - 6) Eltzschig HK., **Eckle T.**, Felbinger TW. 2004. Management of chronic obstructive pulmonary disease. *N Engl J Med*. Sep 30;351(14):1461-3.
 - 7) **Eckle T.**, Ghanayim N., Trick M., Unertl K., Eltzschig HK. 2005. Intraoperative Metamizol as Cause for Acute Anaphylactic Collapse. *Eur J Anaesthesiol* 22:810-12.
 - 8) Eltzschig, HK, **Eckle T.** 2005. Preoperative Revascularization to Prevent Perioperative Myocardial Infarction. *Brit J Anaesth*. 25 June 2005. E-letter.
 - 9) **Eckle, T.**, A. Grenz, D. Kohler, A. Redel, M. Falk, B. Rolauffs, H. Osswald, F. Kehl, and H.K. Eltzschig. 2006. Systematic evaluation of a novel model for cardiac ischemic preconditioning in mice. *Am J Physiol Heart Circ Physiol* 291:H2533-40.
 - 10) Eltzschig, H.K., **T. Eckle**, A. Mager, N. Kuper, C. Karcher, T. Weissmuller, K. Boengler, R. Schulz, S.C. Robson, and S.P. Colgan. 2006. ATP release from activated neutrophils occurs via connexin 43 and modulates adenosine-dependent endothelial cell function. *Circ Res* 99:1100-1108.
 - 11) Eltzschig, H.K., T. Weissmuller, A. Mager, and **Eckle T.** 2006. Nucleotide metabolism and cell-cell interactions. *Methods Mol Biol* 341:73-87.
 - 12) Colgan SP, Eltzschig HK, **Eckle T.**, and Thompson LF. 2006. Physiological Roles of 5'-Ectonucleotidase (CD73). *Purinergic Signalling* 2:351-360.
 - 13) Grenz, A., **T. Eckle**, H. Zhang, D.Y. Huang, M. Wehrmann, C. Kohle, K. Unertl, H. Osswald, and H.K. Eltzschig. 2007. Use of a hanging-weight system for isolated renal artery occlusion during ischemic preconditioning in mice. *Am J Physiol Renal Physiol* 292:F475-F485.
 - 14) **Eckle T.**, Warth A., Köhler D., Faigle M., Zug S., Klingel K., Eltzschig HK, Wolburg H. 2007. Upregulation of the water channel aquaporin-4 as a potential cause of post-ischemic cell swelling in a murine model of myocardial infarction. *Cardiology* 107:402-410.
 - 15) Grenz, A., H. Zhang, **T. Eckle**, M. Mittelbronn, M. Wehrmann, C. Kohle, D. Kloor, L.F. Thompson, H. Osswald, and H.K. Eltzschig. 2007. Protective role of ecto-5'-nucleotidase (CD73) in renal ischemia. *J Am Soc Nephrol* 18:833-845.
 - 16) **Eckle, T.**, T. Krahn, A. Grenz, D. Kohler, M. Mittelbronn, C. Ledent, M.A. Jacobson, H. Osswald, L.F. Thompson, K. Unertl, and H.K. Eltzschig. 2007. Cardioprotection by ecto-5'-nucleotidase (CD73) and A2B adenosine receptors. *Circulation* 115:1581-1590.
 - 17) Grenz, A., H. Zhang, M. Hermes, **T. Eckle**, K. Klingel, D.Y. Huang, C.E. Muller, S.C. Robson, H. Osswald, and H.K. Eltzschig. 2007. Contribution of E-NTPDase1 (CD39) to renal protection from ischemia-reperfusion injury. *FASEB J* 21:2863-2873.
 - 18) **Eckle, T.**, L. Fullbier, M. Wehrmann, J. Khoury, M. Mittelbronn, J. Ibla, P. Rosenberger, and H.K. Eltzschig. 2007. Identification of Ectonucleotidases CD39 and

- CD73 in Innate Protection during Acute Lung Injury. *J Immunol* 178:8127-8137.
- 19) Grenz, A., H. Zhang, J. Weingart, S. von Wietersheim, **T. Eckle**, J.B. Schnermann, C. Kohle, D. Kloor, C.H. Gleiter, V. Vallon, H.K. Eltzschig, and H. Osswald. 2007. Lack of effect of extracellular adenosine generation and signalling on renal erythropoietin secretion during hypoxia. *Am J Physiol Renal Physiol* 293: F1501-11.
 - 20) **Eckle, T.**, D. Kohler, M. Faigle, A. Grenz, M. Mittelbronn, S. Laucher, M.L. Hart, S.C. Robson, C.E. Muller, and H.K. Eltzschig. 2007. CD39/ectonucleoside triphosphate diphosphohydrolase 1 provides myocardial protection during cardiac ischemia/reperfusion injury. *Circulation* 116:1784-1794.
 - 21) Eltzschig H.K., El Kasmi KC, and **Eckle T.** 2008. The HIF2A gene in familial erythrocytosis. *N Engl J Med* 358:1965-1966.
 - 22) **Eckle, T.**, Faigle M, Grenz A, Laucher S, Thompson L and Eltzschig HK. 2008. A2B adenosine receptor dampens hypoxia-induced vascular leak. *Blood* 111:2024-35.
 - 23) **Eckle, T.**, D. Kohler, R. Lehmann, K.C. El Kasmi, and H.K. Eltzschig. 2008. Hypoxia Inducible Factor (HIF)-1 Is Central to Cardioprotection: A New Paradigm for Ischemic Preconditioning. *Circulation* 118:166-75
 - 24) Grenz, A., H. Osswald, **T. Eckle**, D. Yang, H. Zhang, Z.V. Tran, K. Klingel, K. Ravid, and H.K. Eltzschig. 2008. The reno-vascular A2B adenosine receptor protects the kidney from ischemia. *PLoS Medicine* 5:e137.
 - 25) Hart, M.L., D. Kohler, **T. Eckle**, D. Kloor, G.L. Stahl, and H.K. Eltzschig. 2008. Direct treatment of mouse or human blood with soluble 5'-nucleotidase inhibits platelet aggregation. *Arterioscler Thromb Vasc Biol* 28:1477-83.
 - 26) Redel A, Jazbutyte V, Smul TM, Lange M, **Eckle T**, Eltzschig H, Roewer N, Kehl F. Impact of ischemia and reperfusion times on myocardial infarct size in mice in vivo. *Exp Biol Med* (Maywood). 2008 Jan;233(1):84-93.
 - 27) **Eckle T**, Fuellbier L, Grenz, A and Eltzschig HK. 2008. Usefulness of pressure-controlled ventilation at high inspiratory pressures to induce acute lung injury in mice. *Am J Physiol Lung Cell Mol Physiol* 295:L718-24.
 - 28) **Eckle T**, Grenz, A, Laucher S, and Eltzschig HK. 2008. A2B adenosine receptor attenuates ventilator induced lung injury by enhancing alveolar fluid clearance. *Journal of Clinical Investigation* 118:3301-15.
 - 29) Eltzschig HK, Kohler D, **Eckle T**, Kong T, Robson S, and Colgan SP. 2009. Central role of Sp1-regulated CD39 in hypoxia / ischemia protection. *Blood* 113:224-32.
 - 30) Eltzschig HK, **Eckle T**, Grenz A. 2009. PHD2 mutation and congenital erythrocytosis with paraganglioma. *N Engl J Med* 358:1965-1966.
 - 31) **Eckle T**, Koeppen M, Eltzschig HK. 2009. Selective Deletion of the A1 Adenosine Receptor Abolishes Heart-Rate Slowing Effects of Intravascular Adenosine in vivo. 2009. *PLoS One* 26; 4:e6784.
 - 32) **Eckle T**, Koeppen M, Eltzschig HK. 2009. Role of Extracellular Adenosine in Acute Lung Injury. *Physiology* 24:298-306.
 - 33) Schingnitz U., Hartman K., MacManus C.F., **Eckle T.**, Zug S., Colgan S.P., and H.K. Eltzschig H.K.. 2010. Signaling through the A2B Adenosine Receptor Dampens Endotoxin-Induced Acute Lung Injury. *J Immunol.* 2010 May 1;184(9):5271-9. *Epub 2010 Mar 26.*

- 34) **Eckle T**, Eltzschig HK. Toll-like receptor signaling during myocardial ischemia. *Anesthesiology*. 2011 Mar;114(3):490-2.
- 35) **Eckle T***, Koeppen M, Eltzschig HK. Use of a hanging weight system for coronary artery occlusion in mice. *J Vis Exp*. 2011 Apr 19. * **corresponding author**
- 36) Koeppen M, **Eckle T**, Eltzschig HK. Interplay of Hypoxia and A(2B) Adenosine Receptors in Tissue Protection. *Adv Pharmacol*. 2011;61:145-86.
- 37) Koeppen M, **Eckle T**, Eltzschig HK. Pressure controlled ventilation to induce acute lung injury in mice. *J Vis Exp*. 2011 May 5;
- 38) Koeppen M, **Eckle T**, Eltzschig HK. The hypoxia-inflammation link and potential drug targets. *Curr Opin Anaesthesiol*. 2011 Jun 8. [Epub ahead of print].
- 39) Eltzschig HK, **Eckle T**. Ischemia and reperfusion-from mechanism to translation. *Nat Med*. 2011 Nov 7;17(11):1391-401. doi: 10.1038/nm.2507.
- 40) Frank A, Bonney M, Bonney S, Weitzel L, Koeppen M, **Eckle T**. Myocardial Ischemia Reperfusion Injury: From Basic Science to Clinical Bedside. *Semin Cardiothorac Vasc Anesth*. 2012 Feb 23. [Epub ahead of print]
- 41) **Eckle T***, Hartmann K, Bonney S, Reithel S, Mittelbronn M, Walker LA, Lowes BD, Han J, Borchers CH, Buttrick PM, Kominsky DJ, Colgan SP and Eltzschig HK. Adora2b-elicited Per2 stabilization promotes a HIF-dependent metabolic switch crucial for myocardial adaptation to ischemia. *Nat Med*. 2012 April 15; * **corresponding author**
- 42) Koeppen, M, Harter PN, Bonney S, Bonney M, Reithel S, Zachskorn C, Mittelbronn M and **Eckle T**. Adora2b Signaling on Bone Marrow Derived Cells Dampens Myocardial Ischemia-reperfusion Injury. *Anesthesiology* June 2012.
- 43) Koeppen M, Gravlee GP, Nasrallah F, **Eckle T**. Transesophageal Echocardiography in the Diagnosis of Acute Pericardial Tamponade During Hiatal Hernia Repair. *J Cardiothorac Vasc Anesth*. 2012 Nov 14.
- 44) Bonney S, Hughes K, Harter PN, Mittelbronn M, Walker L, **Eckle T**. Cardiac Period 2 in myocardial ischemia: Clinical implications of a light dependent protein. *Int J Biochem Cell Biol*. 2013 Jan 3.
- 45) Eltzschig HK, Bonney SK, **Eckle T**. Attenuating myocardial ischemia by targeting A2B adenosine receptors. *Trends Mol Med*. 2013 Mar 26.
- 46) Han J, Gagnon S, **Eckle T**, Borchers CH. Metabolomic Analysis of Key Central Carbon Metabolism Carboxylic Acids as Their 3-Nitrophenylhydrazones by UPLC/ESI-MS. *Electrophoresis*. 2013 Apr 12.
- 47) **Eckle T**, Hughes K, Ehrentraut H, Brodsky KS, Rosenberger P, Choi DS, Ravid K, Weng T, Xia Y, Blackburn MR, Eltzschig HK. Crosstalk between the equilibrative nucleoside transporter ENT2 and alveolar Adora2b adenosine receptors dampens acute lung injury. *FASEB J*. 2013 Apr 25.
- 48) Han J, Tschernutter, V, Yang J, **Eckle T**, Borchers C. Analysis of Selected Sugars and Sugar Phosphates in Mouse Heart Tissue by Reductive Amination and Liquid Chromatography-Electrospray Ionization Mass Spectrometry. *Anal Chem*. 2013 Jun 18;85(12):5965-73.
- 49) Bonney S, Kominsky, DJ, Brodsky K, Eltzschig HK, Walker L, **Eckle T**. 2013. Cardiac Per2 functions as novel link between fatty acid metabolism and myocardial inflammation during ischemia and reperfusion injury of the heart. *PLoS One*. 2013

- Aug 20;8(8):e71493.
- 50) **Eckle T**, Brodsky K, Bonney M, Packard T, Han J, Borchers CH, Mariani T, Kominsky DJ, Mittelbronn M, and Eltzschig HK. 2013. HIF1A reduces acute lung injury by optimizing carbohydrate metabolism in the alveolar epithelium. *PLoS Biol.* 2013 Sep;11(9):e1001665.
 - 51) **Eckle T**, Kewley EM, Brodsky KS, Tak E, Bonney S, Gobel M, Anderson D, Glover LE, Riegel AK, Colgan SP, Eltzschig HK. Identification of Hypoxia-Inducible Factor HIF-1A as Transcriptional Regulator of the A2B Adenosine Receptor during Acute Lung Injury. *J Immunol.* 2014 Feb 1;192(3).
 - 52) Bonney S, Hughes K and **Eckle T**. Anesthetic Cardioprotection: The role of adenosine. *Curr Pharm Des.* 2014;20(36).
 - 53) **Eckle T**. About dogs, mice and men: From ischemic preconditioning to anesthetic post-conditioning of the heart. *Semin Cardiothorac Vasc Anesth.* 2014 Jul 9;18(3):247-248.
 - 54) Brainard J, Gobel M, Bartels K, Scott B, Koeppen M and **Eckle T**. Circadian Rhythms in Anesthesia and Critical Care Medicine: Potential importance of circadian disruptions. *Semin Cardiothorac Vasc Anesth.* 2015 Mar;19(1):49-60
 - 55) Koeppen M, **Eckle T**, Eltzschig HK Next Generation of Cardiovascular Studies: Transcriptional Responses of the Human Myocardium during Cardiac Surgery. *Anesthesiology.* 2015 Mar;122(3).
 - 56) Brainard J, Gobel M, Scott B, Koeppen M and **Eckle T**. Health Implications of Disrupted Circadian Rhythms and the Potential for Daylight as Therapy. *Anesthesiology.* 2015 May;122(5).
 - 57) **Eckle T**. How Circadian Rhythms do affect Anesthesiology and Research. *Int J Anesth Res* 3, 1-2, 2015
 - 58) Seo SW, Koeppen M, Bonney S, Gobel M, Thayer M, Harter PN, Ravid K, Eltzschig HK, Mittelbronn M, Walker L, **Eckle T**. Differential tissue-specific function of the Adora2b in cardio-protection. *J Immunol.* 2015 Aug 15;195(4)
 - 59) **Eckle T**. Editorial: Health Impact and Management of a Disrupted Circadian Rhythm and Sleep in Critical Illnesses. *Curr Pharm Des.* 2015;21(24).
 - 60) Scott B, **Eckle T**. The impact of sedation protocols on outcomes in critical illness. *Ann Transl Med.* 2016 Jan;4(2).
 - 61) **Eckle T**. New 'Guidance' for the treatment of hepatic ischemia reperfusion injury through semaphorins and plexins. *Crit Care Med.* 2016 Aug;44(8):1623-4.
 - 62) **Eckle T**. Delirium - A Dysfunctional Circadian Rhythm. *Int J Anesth Res.* 2016. 4(1e), 1-3.
 - 63) Gile J., **Eckle T**. ADORA2b Signaling in Cardioprotection. *J Nat Sci,* 2016
 - 64) Bartman C, Oyama Y, Brodsky K, Khailova L, Koeppen M and **Eckle T**. Intense light-elicited upregulation of miR-21 facilitates glycolysis and cardioprotection through Per2-dependent mechanisms. *PLoS One.* 2017 Apr 27;12(4):e0176243.
 - 65) Koeppen M, Morabito J, Fiegel M, Scott B, **Eckle T**. Pneumomediastinum and bilateral pneumothorax causing respiratory failure after thyroid surgery. *Case Reports in Anesthesiology, vol. 2017, Article ID 8206970.*

- 66) Oyama Y, Bartman CM, Gile J, **Eckle T**. Circadian MicroRNAs in Cardioprotection. *Curr Pharm Des.* 2017;23(25):3723-3730
- 67) Koeppen M, Lee JW, Seo SW, Brodsky KS, Kreth S, Yang IV, Buttrick P, **Eckle T**, and Eltzschig HK. HIF2A-dependent induction of amphiregulin dampens myocardial ischemia and reperfusion injury. *Nat Commun.* 2018 Feb 26;9(1):816. doi: [10.1038/s41467-018-03105-2](https://doi.org/10.1038/s41467-018-03105-2).
- 68) Gile J, Scott B, and **Eckle T**. The Period 2 Enhancer Nobiletin as Novel Therapy in Murine Models of Circadian Disruption Resembling Delirium. *Crit Care Med.* 2018 Feb 27. doi: [10.1097/CCM.0000000000003077](https://doi.org/10.1097/CCM.0000000000003077). [Epub ahead of print]. **Editor's Choice.**
- 69) Bartman CM, Oyama Y, **Eckle T**. Daytime variations in perioperative myocardial injury. *Lancet.* 2018 May 26;391(10135):2104. doi: [10.1016/S0140-6736\(18\)30797-9](https://doi.org/10.1016/S0140-6736(18)30797-9). Epub 2018 May 24.
- 70) Szolnoki L, Polaner DM, **Eckle T**. Diurnal variations of PACU times after general anaesthesia for brain MRI in children. *Br J Anaesth.* 2018 Oct;121(4):776-786. Epub 2018 Aug 10.
- 71) Oyama Y, Bartman CM, Gile J, Seht D, **Eckle T**. The circadian PER2 enhancer Nobiletin reverses the deleterious effects of midazolam in myocardial ischemia and reperfusion injury. *Curr Pharm Des.* 2018 Sep 23. [Epub ahead of print].
- 72) Bartman CM and **Eckle T**. Circadian-Hypoxia Link and its Potential for Treatment of Cardiovascular Disease. *Curr Pharm Des.* 2019 May 15. doi: [10.2174/1381612825666190516081612](https://doi.org/10.2174/1381612825666190516081612). [Epub ahead of print]
- 73) Oyama Y Blaskowsky J and **Eckle T**. Dose-dependent effects of esmolol-epinephrine combination therapy in myocardial ischemia and reperfusion injury. *Curr Pharm Des.* 2019 Jun 18. doi: [10.2174/1381612825666190618124829](https://doi.org/10.2174/1381612825666190618124829). [Epub ahead of print]
- 74) Oyama Y, Bartman C, Bonney S, Scott L, Walker LA, Han J, Borchers CH, Aherne CM, Buttrick PM, Clendenen N, Colgan SP and **Eckle T**. Circadian light-mediated endothelial metabolic reprogramming. *Cell Rep.* 2019 Aug 6;28(6):1471-1484.e11. doi: [10.1016/j.celrep.2019.07.020](https://doi.org/10.1016/j.celrep.2019.07.020).
- 75) Lee JW, Koeppen M, Seo SW, Bowser JL, Yuan X, Li J, Sibilia M, Ambardekar AV, Zhang X, **Eckle T**, Yoo SH and Eltzschig HK. 2019. Transcription-independent induction of ERBB1 through hypoxia-inducible factor HIF2A provides cardio-protection during ischemia and reperfusion. *Anesthesiology.* 2020 Apr;132(4):763-780.
- 76) Zilberman-Rudenko J, Deguchi H, Shukla M, Oyama Y, Orje JN, Guo Z, Wyseure T, Mosnier LO, McCarty OJT, Ruggeri ZM, **Eckle T**, Griffin JH. 2020. Cardiac myosin promotes thrombin generation and coagulation in vitro and in vivo. *Arterioscler Thromb Vasc Biol.* 2020 Apr;40(4):901-913.
- 77) Gile J, Oyama Y, Shuff S, **Eckle T**. A role for the adenosine ADORA2B receptor in midazolam induced cognitive dysfunction. *Curr Pharm Des.* 2020 Apr 15.
- 78) Oyama Y, Shuff S, Maddry JK, Schauer SG, Bebarta VS, **Eckle T**. Intense Light Pretreatment Improves Hemodynamics, Barrier Function, and Inflammation in a Murine Model of Hemorrhagic Shock Lung. *Mil Med.* 2020 Jun 9:usaa088.
- 79) Oyama Y, Shuff S, Davizon-Castillo P, Clendenen N, **Eckle T**. Intense light as anticoagulant therapy in humans. *PLoS One.* 2020 Dec 31;15(12):e0244792.

- 80) Vohwinkel CU, Coit EJ, Burns N, Elajaili H, Hernandez-Saavedra D, Yuan X, **Eckle T**, Nozik E, Tuder RM, Eltzschig HK. Targeting alveolar-specific succinate dehydrogenase A attenuates pulmonary inflammation during acute lung injury. *FASEB J*. 2021 Apr;35(4):e21468.
- 81) Shuff S, Oyama Y, Walker L, **Eckle T**. Circadian Angiopoietin-like-4 as novel therapy in cardiovascular disease. *Trends Mol Med*. 2021. Jul;27(7):627-629.
- 82) Oyama Y, Walker L, **Eckle T**. Targeting circadian PER2 as therapy in myocardial ischemia and reperfusion injury. *Chronobiol Int*. 2021. Sep;38(9):1262-1273.
- 83) Oyama Y, Shuff S, Burns N, Vohwinkel CU, **Eckle T**. Intense light elicited alveolar type 2 specific circadian PER2 protects from bacterial lung injury via BPIFB1. *Am J Physiol Lung Cell Mol Physiol*. 2022 Mar 10.
- 84) Prin M, Pattee J, Douin DJ, Scott BK, Ginde AA, **Eckle T**. Time-of-day dependent effects of midazolam administration on myocardial injury in non-cardiac surgery. *Front Cardiovasc Med*. 2022 Oct 28.
- 85) Simmons CG, **Eckle T**, Rogers D, Williams JD, Brainard JC. Disposable laryngoscope intubation to reduce equipment failure in an emergency out of OR setting - a quality control case study. *BMC Anesthesiol*. 2023 Jan 10;23(1):16.
- 86) Douin DJ, Pattee J, Scott B, Fernandez-Bustamante A, Prin M, **Eckle T**, Ginde AA, Clendenen N. Hyperoxemia During Cardiac Surgery Is Associated With Postoperative Pulmonary Complications. *Crit Care Explor*. 2023 Mar 2.
- 87) Prin M, Bertazzo J, Walker LA, Scott B, **Eckle T**. Enhancing circadian rhythms-the circadian MEGA bundle as novel approach to treat critical illness. *Ann Transl Med*. 2023 Jun 30.
- 88) Villasenor M, Bengson J, Cloyd BH, **Eckle T**. Cardiac arrest due to an unexpected inability to ventilate in a tracheostomy patient suggesting the need for a routine anesthesia checklist and an anesthesia relevant emergency pathway for tracheostomy management: a case report. *Ann Transl Med*. 2023 Dec 20.
- 89) Pei B, Jin C, Cao S, **Eckle T**, Park HJ, Ji N, Jiang H, Xia M. The development of prediction model for cuffed tracheal tube size from the middle finger in pediatrics: a concise and feasible approach. *Transl Pediatr*. 2023 Dec 26.
- 90) **Eckle T**, Scott B. Preface on highlights in anesthesia and critical care medicine. *Ann Transl Med*. 2024 Feb 1.
- 91) **Eckle T**, Bertazzo J, Khatua TN, Tabatabaei SRF, Bakhtiari NM, Walker LA, Martino TA. Circadian Influences on Myocardial Ischemia- Reperfusion Injury and Heart Failure. *Circ Res* 2024 Mar 14.
- 92) Theparambil SM, Kopach O, Braga A, Nizari S, Hosford PS, Sagi-Kiss V, Hadjihambi A, Konstantinou C, Esteras N, Gutierrez Del Arroyo A, Ackland GL, Teschemacher AG, Dale N, **Eckle T**, Andrikopoulos P, Rusakov DA, Kasparov S, Gourine AV. Adenosine signaling to astrocytes coordinates brain metabolism and function. *Nature* 2024 Aug.

Book chapters

Yoshimasa Oyama, Lori A. Walker and Tobias **Eckle**. *The Circadian-Hypoxia Link*. Chronobiology and Chronomedicine - From molecular and cellular mechanisms to whole body: interdigitating networks. February 2024. *Royal Society of Chemistry*.

Abstracts (published only)

- 1) Prix L., **Eckle T.**, Hamprecht K., Klingebiel T., Selle B., Jahn G. Drug resistant cytomegalovirus infection in children after stem cell transplantation. 7th international

- Cytomegalovirus Workshop. Brighton, UK, 28. April - 1. Mai, 1999. *J Clin Virol*, 12, No. 2 1 April 1999, page 182.
- 2) **Eckle T.**, Grenz A., Faigle M., Weissmüller T., Thompson L., Colgan SP., Oßwald H., Eltzschig HK. Critical Role of 5'- Ectonucleotidase (CD73) in Cardiac Ischemic Preconditioning. 8th International Symposium on Adenosine and Adenine Nucleotides, Ferrara, Italy, May 2006. *Purinergic Signaling*, 2, No.2 2006, page 164.
 - 3) **Eckle T.**, Grenz G., Faigle M., Weissmüller T., Oßwald H., Thompson L., Colgan SP., Eltzschig HK. Bedeutung der Ekto-5'-Nucleotidase (CD73) für die Ischämische Präkonditionierung am Herzen. 21. Wissenschaftliche Arbeitstage der DGAI in Würzburg, *Anaesthesie und Intensivmedizin*. August 2006, No. 47, page 345.
 - 4) **Eckle T.**, Füllbier L., Wehrmann W and Eltzschig HK. Protective role of ecto-apyrase (CD39) and ecto-5'-nucleotidase (CD73) in acute lung injury. DIVI-Kongress Hamburg, November 2006, *Intensivmedizin und Notfallmedizin*, 43, Supp. 1, Oktober 2006, page I/6.
 - 5) **Eckle T.**, Grenz A, Köhler D, Faigle M, Wehrmann W, Schneermann J, Thompson LT, Osswald H and Eltzschig HK. Critical role of the 5'-ectonucleotidase (CD73) and the adenosine A2B receptor in cardiac ischemic preconditioning. DIVI-Kongress Hamburg, November 2006, *Intensivmedizin und Notfallmedizin*, 43, Supp. 1, Oktober 2006, page I/11.
 - 6) Eltzschig HK, **Eckle T.**, Mager A., Küper N., Karcher C., Weissmuller T., Boengler C., Schulz R., Robson S., and Colgan S. ATP release from activated neutrophils occurs via connexin 43 and modulates adenosine-dependent endothelial cell function. DIVI-Kongress Hamburg, November 2006, *Intensivmedizin und Notfallmedizin*, 43, Supp. 1, Oktober 2006, page I/44.
 - 7) **Eckle T.**, Grenz G., Faigle M., Weissmüller T., Oßwald H., Thompson L., Colgan SP., Eltzschig HK. Kardioprotektive Rolle von E-NTPDase1 (CD39) bei akuter Myokardischämie. 22. Wissenschaftliche Arbeitstage der DGAI in Würzburg, *Anaesthesie und Intensivmedizin* 2007, 48.
 - 8) **Eckle T.**, Krahn T., Grenz A., Köhler D., Mittelbronn M., Ledent C., Jacobson M., Osswald H., Thompson L. Unertl K. and Eltzschig HK. Cardioprotection by ecto-5'-nucleotidase (CD73) and A2B adenosine receptors. TSIS 2007 München 13-17. März 2007, *Inflammation Research* 2007.
 - 9) **Eckle T.**, Füllbier L., Wehrmann M., Khoury J., Ibla J., Rosenberger P. and Eltzschig HK. Identification of ecto-nucleotidases CD39 and CD73 in innate protection during acute lung injury. TSIS 2007 München 13-17. März 2007, *Inflammation Research* 2007.
 - 10) Köhler D., **Eckle T.**, Faigle M., Grenz A., Laucher S., Mittelbronn M., Robson SC, Müller C and Eltzschig HK. Ischemic Preconditioning Induced CD39 as Innate Cardioprotective Mechanism. TSIS 2007 München 13-17. März 2007, *Inflammation Research* 2007.

- 11) **Eckle T.**, Hart M., Mandell S., Eltzhig HK. Extracellular adenosine production by ecto-5' nucleotidase protects during murine hepatic ischemic preconditioning. ILTS 2009 NY July 8-11, *Liver Transplantation* July 2009, S71.
- 12) Mandell S., Hart M., **Eckle T.**, Eltzhig HK. Use of a hanging weight system for liver ischemic preconditioning in mice. ILTS 2009 NY July 8-11, *Liver Transplantation* July 2009, S124.
- 13) Eltzhig HK., Mandell S., **Eckle T.**, Rosenberger P. Hypoxia-inducible factor dependent induction of netrin-1 dampens inflammation caused by hypoxia. ILTS 2009 NY July 8-11, *Liver Transplantation* July 2009, S237.
- 14) Jennifer Rose, Zlatina Naydenova, Andrew Bang, Almut Grenz, **Tobias Eckle**, Holger Eltzhig, Doo-Sup Choi, James Hammond, Imogen Co. Mechanism of purinergic cardioprotection in the ENT1-null mouse. *PURINERGIC SIGNALLING 6, 114-115, 2010*
- 15) M Koeppen, KS Brodsky, E Kewley, TJ Mariani, M Moss, H Eltzhig, **T Eckle**. Role Of Mucosal Hypoxia-Inducible Factor (hif) 1a During Acute Lung Injury. ATS 2011. *Am J Respir Crit Care Med 183, A4012.*
- 16) KS Brodsky, M Moss, **T Eckle**, DA Schwartz, H Eltzhig, M Koeppen. Detrimental Role For Gel-Forming Protein Muc5ac During Acute Lung Injury. *Am J Respir Crit Care Med 183;2011:A1663*
- 17) M Koeppen, KS Brodsky, M Moss, **T Eckle**, DA Schwartz, H Eltzhig. Detrimental role for gel-forming protein MUC5AC during acute lung injury. *Am J Respir Crit Care Med 183.*
- 18) Seres, T, Klawitter, J, Christians, U, **Eckle, T.** Upregulation of DJ-1 Protein after Prolonged Ischemia in a Murine Model for Myocardial Ischemia and Reperfusion. AHA Scientific Sessions 2014. *Circulation 130 (Suppl 2), A19185-A19185*
- 19) M Gobel, S Bonney, **T Eckle**. Light Therapy At The Interface Of Circadian Proteins And Lung Disease. ATS 2015. *Am J Respir Crit Care Med 191, A3647*
- 20) M Koeppen, **T Eckle**, H Eltzhig. SELECTIVE ROLE FOR NEUTROPHIL-DEPENDENT HIF1A IN ATTENUATING POST-ISCHEMIC MYOCARDIAL INFLAMMATION. SHOCK 2015. *SHOCK, 43 (6), 29-29*
- 21) J Blaskowsky, **T Eckle**. A Comparison of Epinephrine, Esmolol, and the Combination of Both in Reperfusion Injury After Murine Myocardial Ischemia. Volume 32, Issue 1_supplement 01 Apr 2018. FASEB JOURNAL, 2018.

Abstracts (presented at scientific meetings)

- 1) **Eckle T.**, Prix L., Hebart H., Einsele H., Jahn G., Hamprecht K. 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, Austria, 2000.

- 2) Hamprecht K., **Eckle T.**, Lang P., Einsele H., Niethammer D., Jahn G. 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, Germany 4. - 11. April 2002.
- 3) **Eckle T.**, Jahn G., Hamprecht K. 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, 17-20 March 2004, Germany.
- 4) Weissmüller T., **Eckle T.**, Faigle M., Robinson A, Kepmf VA, Colgan SP., Eltzschig HK. Modulation of endothelial ATP Signaling by Hypoxia: Functional Consequences of HIF-1 dependant P2y2 induction. Keystone Meeting, Hypoxia and Development, Physiology and Diseases, January 16-21, 2006, Breckenridge, USA.
- 5) **Eckle T.**, Grenz G., Faigle M., Weissmüller T., Oßwald H., Thompson L., Colgan SP., Eltzschig HK. Critical Role of 5'- Ectonucleotidase (CD73) in Cardiac Ischemic Preconditioning. DAC 17. - 20. Mai 2006. Congress Centrum Leipzig, Germany.
- 6) Grenz A., Zhang H., **Eckle T.**, Zug S., Köhle C., Falk M., Thompson L., Wehrmann M., Osswald H., Eltzschig H.K. Bedeutung der Ekto-5'-Nukleotidase (CD73) für die ischämische Präkonditionierung an der Niere. 37. Kongress der Gesellschaft für Nephrologie Essen, Germany, September 2006.
- 7) Eltzschig HK, **Eckle T.**, Mager A., Küper N., Karcher C., Weissmuller T., Boengler C., Schulz R., Robson S., and Colgan S. ATP release from activated neutrophils occurs via connexin 43 and modulates adenosine-dependent endothelial cell function. DIVI-Kongress Hamburg, Germany, Oktober 2006.
- 8) Eltzschig, HK, **Eckle T.** Role of HIF-1alpha in A2B Adenosine Receptor-dependent Cardioprotection During Ischemic Preconditioning. Molecular, Cellular, Physiological, and Pathogenic Responses to Hypoxia, Keystone Meeting, Vancouver, British Columbia, Canada, January 15 - 20, 2008.
- 9) **Eckle T.**, Eltzschig HK. Netrin dampens inflammation. Translational Immunology Symposium Princeton Conference Center at Children's Hospital, Anschutz Medical Campus, Denver, USA, May 29, 2008.
- 10) **Eckle T.**, Grenz A, Laucher S, Eltzschig HK. A2B adenosine receptor attenuates ventilator induced lung injury by enhancing alveolar fluid clearance. Immunology Retreat October 2008, UC Denver.
- 11) **Eckle T.**, Hartmann K, Mittelbronn M, Kominsky D, Eltzschig HK. Period in Cardioprotection. Immunology Retreat September 2009, Estes Parc, USA.
- 12) **Eckle T.**, Hartmann K. Walker L., Mittelbronn M., Kominsky D., and Eltzschig HK. Per2 critical in myocardial ischemia. Hypoxia: Molecular Mechanisms of Oxygen Sensing and Response Pathways. January 19 - 24, 2010, Keystone Meeting, Keystone, USA.

- 13) **Eckle, T**, Hartmann K, Komminsky D, Walker L., Mittelbronn M., Lowes B., and Eltzschig H.K. Adenosine-dependent stabilization of the clock gene Per2 mediates a metabolic switch critical for myocardial adaptation to ischemia. AUA, 57th Annual Meeting, April 8 -10 2010, Denver, USA.
- 14) Eltzschig HK, Brodsky K., Hartmann K., **Eckle T**. Protective role of hypoxia-inducible factor (HIF)-1a in acute lung injury. AUA, 57th Annual Meeting, April 8 -10 2010, Denver, USA.
- 15) **Eckle T.**, Brodsky K., Hartmann K., Eltzschig HK. Hypoxia Inducible Factor in VILI. DAC 2010 June 19-22, Nurnberg, Germany.
- 16) **Eckle T.**, Hartmann K, Komminsky D., Mittelbronn M, Walker L., Lowes B. and Eltzschig HK. Light dependent Per2 mediates a metabolic switch critical for myocardial ischemia. DAC 2010 June 19-22, Nurnberg, Germany.
- 17) Koeppen M., **Eckle T.**, Eltzschig HK. A1-Adenosine-Rezeptor (A1AR) mediates adenosine-induced bradycardia. DAC 2010 June 19-22, Nurnberg, Germany.
- 18) Koeppen, K., **Eckle T.**, Eltzschig HK. Neuronal guidance molecule netrin-1 attenuates myocardial ischemia reperfusion injury by enhancing extracellular adenosine signaling events. DAC 2010 June 19-22, Nurnberg, Germany.
- 19) **Eckle T.**, Hartmann K., Mittelbronn M, Walker L, Kominsky D, Eltzschig HK. Period 2 promotes metabolic adaptation of the myocardium to ischemia via regulation of HIF1a. Keystone Symposia: Molecular Cardiology: Disease Mechanisms and Experimental Therapeutics. 22 Feb 2011 - 27 Feb 2011. Keystone, USA.
- 20) Koeppen M, Eltzschig HK, **Eckle T**. AB2AR signaling on bone marrow derived cells dampens myocardial ischemia-reperfusion injury. Keystone Symposia: Molecular Cardiology: Disease Mechanisms and Experimental Therapeutics. 22 Feb 2011 - 27 Feb 2011. Keystone, USA.
- 21) Koeppen M, Bonney S, Reitel S, Mittelbronn M, **Eckle T**. AB2AR agonist treatment as therapeutic option in myocardial ischemia-reperfusion injury. IARS 2011 Annual Meeting, May 21 -24, Vancouver, Canada.
- 22) **Eckle T**, Brodsky KS, Koeppen M, Kewley E, Mariani TJ, Moss M, and Eltzschig HK. (HIF)-1 stabilization as pharmacological strategy in acute lung injury. IARS 2011 Annual Meeting May 21 -24, Vancouver, Canada.
- 23) **Eckle T** and Eltzschig HK. ENT2 in myocardial ischemia. IARS 2011 Annual Meeting May 21 -24, Vancouver, Canada.
- 24) **Eckle T.**, Hartmann K., Mittelbronn M, Walker L, Kominsky D, Eltzschig HK. Light Therapy in myocardial ischemia. IARS 2011 Annual Meeting May 21 -24, Vancouver, Canada.
- 25) **Eckle T**, Bonney S, Bonney B, Eltzschig HK. The Role of Circadian Hif1a in Period2 mediated Cardioprotection. Keystone Meeting 2012 Hypoxia and Metabolism, Banff, Canada.

- 26) Poth P, Bonney S, Bonney M, Eltzschig HK and **Eckle T**. Nucleoside Transporters in Acute Lung Injury. Keystone Meeting 2012 Hypoxia and Metabolism, Banff, Canada.
- 27) **Eckle T**, Hartmann K, Bonney S, Reithel S, Mittelbronn M, Walker L, Lowes B, Han J, Borchers C, Buttrick P, Kominsky D, Colgan S and EltzschigHK. Adora2b-elicited Per2 stabilization promotes a HIF-dependent metabolic switch critical for myocardial adaptation to ischemia. Meeting of NHLBI K Award Investigators, July 16-17, 2012.
- 28) Bonney S, Hughes K, Buttrick P, Eltzschig HK, Walker L and **Eckle T**. The Role of human Period 2 in carbohydrate metabolism and myocardial ischemia. Molecular Clockworks and the Regulation of Cardio-Metabolic Function Snowbird, Utah USA, April 3 - April 7, 2013.
- 29) Sehrt D, Gobel M, **Eckle T**. Light elicited Per2 in cardio-protection. FAER Medical Student Anesthesia Research Fellowship Symposium — ASA Annual Meeting October 12, 2014, Morial Convention Center, New Orleans, LA, United States
- 30) Gobel M, Sehrt D, Bonney S and **Eckle T**. Per2 control of glycolysis, fatty acid oxidation and mitochondrial biogenesis. January 27, 2015, Convention Center, Santa Fe, Keystone Meeting Mitochondria, Metabolism and Heart Failure.
- 31) Gonzales J, **Eckle T**, Romano O. A Regional Fellowship Impacts HCAHPS Survey Scores Regarding Satisfaction with Pain Management at Academic Institutions. Poster presented at: 40th Annual Regional Anesthesiology and Acute Pain Medicine Meeting; 2015 May 14-16; Las Vegas, NV.
- 32) Gobel M, Bonney S, **Eckle T**. Light therapy at the interface of circadian proteins and lung disease. May 18, 2015, ATS, Denver, CO, USA.
- 33) Colleen B, Khailova L, Goodman M, Bonney S, **Eckle T**. Light Elicited Circadian Rhythm in Cardiac Metabolism. October 9-10, 2015 Annual CSD Retreat, Breckenridge, CO, USA.
- 34) Colleen B, Khailova L, Goodman M, Bonney S, **Eckle T**. Light Elicited Metabolic Adaptation to Hypoxia. **Top Poster** at the 30th Annual Student Research Forum. February 4th, 2016, Denver, UC Denver, USA.
- 35) Colleen B, Khailova L, Goodman M, Bonney S, **Eckle T**. Intense Light as a Novel Treatment for Myocardial Ischemia. ACTS meeting 2016, April 13 -15 2016, Washington DC, USA.
- 36) **Eckle T**. Light Elicited Mechanisms in Organ Protection. AUA 63rd Annual Meeting, May 19-20, 2016, in San Francisco, USA.
- 37) Gile J, Sehrt D, Scott B and **Eckle T**. The impact of midazolam on the expression of the circadian rhythm protein Per2. Neuroscience Conference 2016 November 12-16 2016, San Diego, USA
- 38) Jennifer Gile, Daniel Sehrt and Tobias Eckle. THE IMPACT OF MIDAZOLAM ON THE EXPRESSION OF CARDIAC PER2 AND MYOCARDIAL ISCHEMIA AND

- REPERFUSION INJURY. 2016 Anesthesiology Research Conference. Denver, UC Denver, USA.
- 39) Colleen M Bartman, Kelley Brodsky, Ludmila Khailova, Michael Koeppen, and Tobias **Eckle**. Intense light-elicited up-regulation of miR-21 facilitates PER2-dependent glycolytic metabolism. 2016 November. Anesthesiology Research Conference. Denver, UC Denver, USA. **2nd poster prize**.
- 40) Colleen M Bartman, Lida Khailova, and Tobias **Eckle**. Illuminating a circadian link to cardio-protective metabolism. 2016 November. Anesthesiology Research Conference. Denver, UC Denver, USA.
- 41) Ludmila Khailova, Jennifer Gile, Colleen Bartman, Tobias **Eckle**. Intense light elicits Period 2 in acute lung injury. 2016 November. Anesthesiology Research Conference. Denver, UC Denver, USA.
- 42) Jennifer Gile, Daniel Sehrt and Tobias **Eckle**. The role of the circadian rhythm protein Per2 in delirium. 2016 November. Anesthesiology Research Conference. Denver, UC Denver, USA.
- 43) Colleen M Bartman, Lida Khailova, and Tobias **Eckle**. Illuminating a Circadian Link to Cardio-Protective Metabolism. 2017. 31st Annual Student Research Forum, Denver, UC Denver, USA. **Award for Best in Area-Surgery or Cardiovascular**
- 44) Jennifer Gile, Daniel Sehrt and Tobias **Eckle**. The role of the circadian rhythm protein Per2 in delirium. 2017. 31st Annual Student Research Forum, Denver, UC Denver, USA. **Award for Best in Area-Neuroscience-Brain, Behavior, and Vision**.
- 45) Colleen M Bartman, Lida Khailova, and Tobias **Eckle**. Light elicited circadian mechanisms on cardio-protective metabolism. May 8—12, 2017, Keystone Symposia, Mitochondria, Metabolism and Heart, Santa Fe, New Mexico USA.
- 46) Yoshimasa Oyama, Colleen Bartman and Tobias **Eckle**. Entrainment as mechanism for light elicited PER2 in cardioprotection. October 2017. **2nd** Anesthesiology Research Conference. Denver, UC Denver, USA.
- 47) Colleen Bartman, Yoshimasa Oyama, and Tobias **Eckle**. The Role of PER2 in Hypoxic Metabolic Adaptation. October 2017. **2nd** Anesthesiology Research Conference. Denver, UC Denver, USA.
- 48) Jennifer Gile¹, Benjamin Scott and Tobias **Eckle**. Per2 as novel therapeutic target in midazolam induced delirium. October 2017. **2nd** Anesthesiology Research Conference. Denver, UC Denver, USA.
- 49) Yoshimasa Oyama, Benjamin K. Scott, Tobias **Eckle**. Pneumomediastinum and bilateral pneumothoraces causing severe respiratory failure after thyroid surgery. Medically Challenging Case Presentations. ASA Anesthesiology annual meeting October 2017, Boston, USA.
- 50) Colleen Bartman, Yoshimasa Oyama, and Tobias **Eckle**. Light elicited cardio-protection reveals circadian entrainment as a mechanism that requires PER2 to mimic

- HIF1 α mediated metabolic adaptation to ischemia at the AUA 2018 Annual Meeting, April 27 – 28, 2018 (**Invited talk**)
- 51) Oyama Yoshimasa, Colleen Bartman, Sean Colgan and Tobias Eckle. Light elicited and endothelial specific PER2 maintains vascular integrity during myocardial ischemia via metabolic reprogramming. October 2018. **3rd** Anesthesiology Research Conference. Denver, UC Denver, USA.
 - 52) Andrea Hess, Yoshimasa Oyama and Tobias **Eckle**. Intense Light as Cardioprotective Strategy. ASA Anesthesiology annual meeting October 2018, San Francisco, USA. FAER's Medical Student Anesthesia Research Fellowships (MSARF) program
 - 53) Jennifer Gile, Benjamin Scott and Tobias **Eckle**. Per2 as a novel therapeutic target in midazolam induced delirium. December 2018. Best Student Research Forum Poster at the 33rd Annual Student Research Forum. Denver, UC Denver, USA
 - 54) Yoshimasa Oyama and Tobias **Eckle**. Light elicited and endothelial specific PER2 maintains vascular integrity during murine myocardial ischemia via metabolic reprogramming. AUA 2019 Annual Meeting, May 16-17.
 - 55) Yoshimasa Oyama and Tobias **Eckle**. Light elicited alveolar type 2 specific PER2 in bacterial induced murine lung injury. ASA Anesthesiology annual meeting October 2019, Orlando, USA.
 - 56) **Eckle T**, Shuff S, Maddry JK, Schauer SG, Bebarta VS. Intense light in HSL. Military Health System Research Symposium. 2020.
 - 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.
 - 60) Julia Bertazzo, Yanmei Du, Lori Walker and **Tobias Eckle**. Light therapy and circadian regulation to prevent endothelial dysfunction. ISHR 2024. Annual Meeting August 19-23, 2024.
 - 61) **Tobias Eckle**, Julia Bertazzo, Yoshimasa Oyama, Finneas Gordon and Lori Walker. Intense light as novel treatment for myocardial injury in non-cardiac surgery (MINS). AUA 2025 Annual Meeting.

Denver, Monday, November 04, 2024

A handwritten signature in black ink, appearing to read 'Tobias de la Garza Eckle'. The signature is fluid and cursive, with a large initial 'T' and 'G'.

Tobias de la Garza Eckle, MD, PhD, FASA

Professor|Anesthesiology

Associate Vice Chair|Faculty Development

Medical Director|APP

Director|Grand Rounds

Department of Anesthesiology, University of Colorado Anschutz Medical Campus