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## BIOGRAPHICAL SKETCH

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NAME Czer, Lawrence S.C.	POSITION TITLE Professor of Medicine in Residence Medical Director, Heart Transplantation Program		
eRA COMMONS USER NAME (credential, e.g., agency login) czerlsc			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
University of California, Los Angeles	B.S.	1973	Physics
University of California, Los Angeles	M.D.	1977	Medicine
UCLA-Sepulveda VA-Olive View	Residency	1980	Internal Medicine
Cedars-Sinai Medical Center	Fellowship	1983	Cardiology

### A. Personal Statement

As the Medical Director of the Heart Transplant Program at Cedars-Sinai Medical Center, my research has focused on experimental and clinical aspects of heart transplantation, ventricular assist devices, and advanced heart failure. As a result of clinical management of these patients, the size of the heart transplant program, and research in these areas, I am recognized nationally and internationally as an expert. I am certified by the ABIM in the new subspecialty of Transplant Cardiology and Advanced Heart Failure, as well as in Cardiovascular Diseases and Internal Medicine.

Since 2001, the Heart Transplant Research group has participated in the training of 20 graduate students (Robert Tabrizi, Zhanna Feldsher, Roemer van Wijk, Aram John Raissi, Jason Lee, Chris Capelli, Kaveh Zivari, Raffi Salibian, Sarah Kim, Matthew Rafiei, Robby Pixton, Alexandra Rudolph, Saba Badar, Morcos Awad, Kavi Patel, Shea Gallagher, Hannah Morris, Joshua Pinzas, Camelia Soliman, Sarah Saba Golshani), two post-doctoral scientists (Bernice Coleman, Ph.D., N.P., Hai-Mei Wang, D.D.S.), and 17 physicians (Andreas Kamlot, M.D., Harmik Soukiasian, M.D., Yong-Hwan Kim, M.D., Ph.D., Sorel Goland, M.D., Anita Phan, M.D., Ryan Morrissey, M.D., Pavel Goykhman, M.D., Andrea Ruzza, M.D., Roberta Vespignani, M.D., Roh Yanagida, M.D., Ph.D., Evan Kransdorf, M.D., Pranav Kansara, M.D., Robert Morlend, M.D., Dael Geft, M.D., Natasha Lipson Altman, M.D., Chhaya Aggarwal, M.D., Michael Sasevich, M.D.).

Areas of basic research investigation have included the development of a rat model of transplant atherosclerosis, the prevention of transplant atherosclerosis by immunosuppressive drugs and lipid-lowering medications, the evaluation of cytokine genotypes in human heart transplant recipients, gene transfer techniques for heart transplantation, the study of warfarin gene polymorphisms, a Cardiothoracic Tissue Repository, and the use of bone-marrow derived and cardiac stem cells for myocardial regeneration. In addition, the research group has participated in multicenter, randomized clinical trials of drug therapies for heart failure (WATCH, A-HEFT, ESSENTIAL, REVIVE, TMAC), resynchronization and hemodynamic monitoring devices for heart failure (MIRACLE, COMPANION, REDUCE HF, COMPASS HF Extension study, LAPTOP), trials of immunosuppressive drug therapy (Certican), and has also participated in a National Institutes of Health sponsored grant for a Specialized Center for Cell-based Therapy. Areas of clinical investigation have included studies of cellular and antibody-mediated rejection, prevention of rejection with induction drug therapy, treatment and prevention of cytomegalovirus infection, treatment of advanced heart failure, treatment of myocarditis, and the use of ventricular assist devices and the total artificial heart.

As Medical Director of the Heart Transplant Program, I am responsible for the clinical care of more than 900 patients who have received heart transplants or who are waiting for heart transplantation. The heart transplant program has been the largest in the United States and in the world for three years. I manage and supervise a heart transplant database, which is used for submission of donor and recipient data to public reporting agencies such as UNOS (United Network for Organ Sharing) and SRTR (Scientific Registry of Transplant Recipients). I am on the Board of Advisors for the largest organ procurement organization in the United States, One Legacy. As Director of the Cardiothoracic Surgery (CVS) Database, I am responsible for

managing the data collection and follow-up of all patients who have had cardiac surgery at Cedars-Sinai Medical Center (>30,000 patients), and for monitoring quality measures of outcome after cardiac surgery, including heart transplantation and ventricular assist devices.

## **B. Positions and Honors**

### **Positions and Employment**

1983 - present Attending Physician, Cardiac Surgery Intensive Care Unit, Cedars-Sinai Medical Center  
1988 - 1990 Acting Medical Director of Heart Transplantation Program, Cedars-Sinai Medical Center  
1990 - present Medical Director of Heart Transplantation Program, Cedars-Sinai Medical Center  
1991 - 1997 Associate Professor (in Residence), Department of Medicine, UCLA School of Medicine  
1997 - present Professor (in Residence), Department of Medicine, UCLA School of Medicine

### **Other experience and Professional Memberships**

1985 – present Fellow, American College of Cardiology  
1986 - present Fellow, American College of Chest Physicians  
1988 - present Fellow, American College of Physicians  
1985 - 1994 Co-Director of Intraoperative Echocardiography and Color Doppler Imaging Program, Cedars-Sinai Medical Center  
1989 - 1995 Member and Chairman, Western Hemisphere Committee, International Society of Intra-Operative Cardiovascular Ultrasound  
1990 - present Director, Heart Transplant Database  
2002 - present Director, Cardiothoracic Surgery Database  
2004 - present Board of Advisors, One Legacy

## **C. Selected Peer-reviewed Publications**

1. Awad M, **Czer LS**, Mirocha J, Ruzza A, Rafiei M, Reich H, De Robertis M, Rihbany K, Pinzas J, Ramzy D, Arabia F, Trento A, Kobashigawa J, Esmailian F. Prior sternotomy increases the mortality and morbidity of adult heart transplantation. *Transplantation Proceedings* 2015 Mar; 47: 485-497.
2. Kobashigawa J, Patel J, Azarbal B, Kittleson M, Chang D, **Czer L**, Daun T, Luu M, Trento A, Cheng R, Esmailian F. Randomized pilot trial of gene expression profiling versus heart biopsy in the first year after heart transplant: early invasive attenuation through gene expression trial (EIMAGE). *Circ Heart Fail* 2015 (Epub 2015 Feb 19).
3. Awad M, Ruzza A, Soliman C, Pinzas J, Marban E, Trento A, **Czer LS**. Endomyocardial biopsy technique for orthotopic heart transplantation and cardiac stem cell harvesting. *Transplantation Proceedings* 2014 Dec; 46: 3580-3584.
4. Yanagida R, **Czer LS**, Mirocha J, Rafiei M, Esmailian F, Moriguchi J, Kobashigawa JA, Trento A. Left ventricular assist device in patients with body mass index greater than 30 as bridge to weight loss and heart transplant candidacy. *Transplantation Proceedings* 2014 Dec; 46: 3575-3579.
5. Awad M, Ruzza A, Mirocha J, Setareh-Shenas S, Pixton JR, Soliman C, **Czer LS**. Prevalence of hypertension in The Gambia and Sierra Leone, western Africa: a cross-sectional study. *Cardiovasc J Afr* 2014 Nov-Dec; 25: 269-278 (Epub 2014 Sept 29).
6. Caceres M, Esmailian F, Moriguchi JD, Arabia FA, **Czer LS**. Mechanical circulatory support in cardiogenic shock following an acute myocardial infarction: a systematic review. *J Card Surg* 2014 Sept; 29: 743-751 (Epub 2014 Aug 1).
7. Kansara P, **Czer L**, Awad M, Arabia F, Mirocha J, De Robertis M, Moriguchi J, Ramzy D, Kass RM, Esmailian F, Trento A, Kobashigawa J. Heart transplantation with and without prior sternotomy: analysis of the United Network for Organ Sharing database. *Transplantation Proceedings* 2014 Jan-Feb; 46: 249-255.
8. Kransdorf EP, **Czer LS**, Luthringer DJ, Patel JK, Montgomery SP, Velleca A, Mirocha J, Zakowski PC, Zabner R, Gaultier CR, Qvarnstrom Y, Benedict T, Steurer F, Bosserman E, Paddock CD, Rafiei M, Kobashigawa JA. Heart transplantation for Chagas cardiomyopathy in the United States. *Am J Transplant* 2013 Dec; 13: 3262-3268 (Epub 2013 Oct 28).
9. Lin J, Cheng W, **Czer LS**, De Robertis MA, Mirocha J, Ruzza A, Kass RM, Khoyneshad A, Ramzy D, Esmailian F, Trento A. Coronary artery bypass graft surgery using the radial artery as a secondary conduit improves patient survival. *JAHA* 2013 Aug 22; 2: e000266.

10. **Czer LS**, Phan A, Ruzza A, Rafiei M, Setareh-Shenas S, Caceres M, Awad M, Soliman C, Mirocha J, De Robertis M, Kass RM, Trento A. Antithymocyte globulin induction therapy adjusted for immunologic risk after heart transplantation. *Transplantation Proceedings* 2013 Jul-Aug; 45: 2393-2398.
11. Yanagida R, **Czer LS**, Ruzza A, Schwarz ER, Simsir SA, Jordan SC, Trento A. Use of ventricular assist device as bridge to simultaneous heart and kidney transplantation in patients with cardiac and renal failure. *Transplantation Proceedings* 2013 Jul-Aug; 45: 2378-2383.
12. Makkar RR, Smith RR, Cheng K, Malliaras K, Thomson LE, Berman D, **Czer LS**, Marban L, Mendizabal A, Johnston PV, Russell SD, Schuleri KH, Lardo AC, Gerstenblith G, Marban E. Intracoronary cardiosphere-derived cells for heart regeneration after myocardial infarction (CADUCEUS): a prospective, randomised phase 1 trial. *Lancet* 2012 Mar; 379: 895-904 (Epub 2012 Feb 14).
13. **Czer LSC**, Ruzza A, Vespignani R, Jordan S, De Robertis MA, Mirocha J, Gallagher SP, Patel K, Schwarz ER, Kass RM, Trento A. Survival and allograft rejection rates after combined heart and kidney transplantation in comparison with heart transplantation alone. *Transplantation Proceedings* 2011 Dec; 43: 3869-3876. PMID:22172862
14. **Czer LSC**, Wong AV, Soukiasian HJ, Gallagher S, De Robertis M, Trento A. Prolonged cold ischemic times and less donor-recipient histocompatibility accelerate graft vascular disease. *Transplantation Proceedings* 2011 Dec; 43: 3863-3868. PMID:22172861
15. Daneshvar D, **Czer LSC**, Phan A, Schwarz ER, De Robertis M, Mirocha J, Rafiei M, Pixton JR, Kass RM, Trento A. Heart transplantation in patients aged 70 years and older: a two decade experience. *Transplantation Proceedings* 2011 Dec; 43: 3851-3856. PMID:22172859
16. Yanagida R, **Czer LSC**, Reinsmoen NL, Cao K, Rafiei M, De Robertis MA, Mirocha J, Kass RM, Kobashigawa J, Trento A. Impact of virtual cross match on waiting times for heart transplantation. *Ann Thorac Surg* 2011 Dec; 92: 2104-2111. PMID:22115224
17. White AJ, Smith RR, Matsushita S, Chakravarty T, **Czer LS**, Burton K, Schwarz ER, Davis DR, Wang Q, Reinsmoen NL, Forrester JS, Marban ER, Makkar R. Intrinsic cardiac origin of cardiosphere-derived cells. *Eur Heart J* 2011 (Epub 2011 June 9). PMID:21659438

## D. Research Support

### Ongoing Research Support

St. Jude LAPTOP study	Czer (PI)	07/01/12 – 07/01/15
Randomized, multicenter trial of left atrial pressure monitoring device for evaluation of advanced heart failure and to guide medical therapy.		

Medtronic <i>COMPASS Extension Study</i>	Czer (PI)	07/01/11 – 07/01/14
Extension of follow-up and use of hemodynamic monitoring device to assess advanced heart failure patients and guide medical therapy).		

U54 HL081028-01	Marban (PI)	09/01/08 – 08/31/12
<i>Cellular Cardiomyoplasty for Acute and Chronic Ischemia</i>		
The major goal of this Specialized Center for Cell Therapeutics proposal aims to develop cellular cardiomyoplasty for the treatment of ischemic heart disease, both post-myocardial infarction left ventricular dysfunction as well as chronic ischemic cardiomyopathy.		
Role: Co-Investigator, Project 2		

TransMedics randomized trial	Esmailian (PI)	07/01/11 – 12/31/12
PROCEED trial (Multicenter, randomized trial of perfusion and oxygenation device for donor hearts).		
Role: Co-Investigator		

### Completed Research Support

Rav-Noy Foundation Stem Cell Research	Czer (PI)	01/01/07 – 01/01/11
<i>Cardiospheres from cardiac-derived stem cells.</i>		

Medtronic <i>Reduce-HF study</i>	Czer (PI)	07/01/08 – 07/01/11
Multicenter, randomized clinical trial of implantable hemodynamic monitoring device to assess advanced heart failure patients and guide medical therapy.		