Lloyd F. Rose

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Summary of Experience

- Regenerative Medicine Program Area Manager –
  Clinical and Rehabilitative Medicine Research Program, Fort Detrick, MD
- Post-doctoral fellow in skin and burn research –
  U.S. Army Institute of Surgical Research, San Antonio, TX
- Adjunct Professor at Trinity University, San Antonio, TX

Educational and Professional Training

- **PhD, Microbiology,** The University of Texas Health Science Center, San Antonio, TX 2012.
- **BA, Microbiology,** The University of Texas at Austin, TX 2006.
- **BA History**, The University of Texas at Austin, TX 1994.

Professional Experience

Clinical & Rehabilitative Medicine Research Program, Fort Detrick, MD
Regenerative Medicine Program Area Manager, 2015 - Present.

- Direct and shape extramural programmatic strategy pertaining to Clinical and Rehabilitative Medicine Research Program (CRMRP) Regenerative Medicine Program Area to include regeneration of hard and soft tissue focus areas and work with the CRMRP Director, Senior Scientists and Congressional Directed Medical Research Program (CDMRP) to implement this strategy
- Establish and conduct Regenerative Medicine Scientific Working Group Committees to identify current regenerative medicine capability gaps and develop research objectives
- Scientifically and programmatically review pre-proposals and full-proposals for funding regenerative medicine research
- Develop and maintain communication channels relating to CRMRP Regenerative Medicine research with sister services, other governmental agencies, CDMRP, Advanced Development counterparts at MRMC U.S. Army Medical Materiel Development Activity (USAMMDA) and U.S. Army Medical Materiel Agency (USAMMA), military clinicians, researchers and others to capture current relevant research efforts, identify clinical problems, capability gaps and innovations to guide current and future regenerative medicine research
- Coordinate with Advanced Development (USAMMA and USAMMDA) to identify promising solutions to the capability gaps to transition into the medical product development lifecycle
- Develop and implement fiscally and programmatically responsible funding strategies for both short term and long term goals for CRMRP Regenerative Medicine-related research efforts
- Develop and maintain communication channels relating to CRMRP Regenerative Medicine investigators and collaborators including Uniformed Services of Health Sciences (USUHS), USAMRMC subordinate laboratories, and end-users of USAMRMC research and others to capture and verify capability gaps and current technologies related to regenerative medicine research topics

- Establish and maintain communication with potential industry partners that have technologies that may be important to meeting the capability gaps or research goals of the CRMRP Regenerative Medicine Research Program

U.S. Army Institute of Surgical Research, San Antonio, Texas
Post-doctoral Fellow, Skin and Burn Trauma Research, 2012 - 2015.

- Developed a porcine model of skin loss from trauma or burns with which to test promising engineering and pharmaceutical products to enhance healing and reduce scarring
- Examined the role of hypodermis in the wound healing and scarring.

Trinity University, San Antonio, Texas
Adjunct Professor of Biology, 2013-2015

- Taught introductory and upper level biology courses for both science and non-science majors

Research Experience

- **Traumatic Skin Loss and Burn Wound Animal Models** - Institute of Surgical Research. Developed and validated animal models that are instrumental to test promising regenerative technologies that can be translated into the clinic to treat wounded warriors.
- **Scarring Reduction Testing** - Institute of Surgical Research. Testing wound care methodologies and pharmaceuticals to alter the wound microenvironment for the purpose of reducing hypertrophic scarring and wound contraction.
- **Poxvirus Inhibition of Inflammation** – University of Texas Health Science Center at San Antonio. Studied the mechanisms by which poxviruses inhibit the NF-κB–mediated inflammatory response for the purpose of designing improved small pox vaccines.
- **Poxvirus Interference in Cell Migration Mechanisms** – University of Texas Health Science Center at San Antonio. Utilized a viral protein to explore the role of the small GTPase Arf6 in actin rearrangement and cell migration.
- ***Strepococcus pneumoniae* Mechanism of Trans-Pulmonary Invasion** – University of Texas health Science Center at San Antonio. Identified the receptor by which *S. pneumoniae* attaches specifically to lung epithelial cells preliminary to crossing into the blood stream to induce bacteremia.

Publications

1. Olekson MA.; **Rose LF**; Carlsson AH; Fletcher JL; Leung KP; Chan RK. Ultrahigh Dose Gentamicin Alters Inflammation and Angiogenesis In Vivo and In Vitro. Submitted.

2. **Rose LF**, Carlsson AH, Wu JC, Chan RK. Antecedent thermal injury worsens split-thickness skin graft quality: A clinically relevant porcine model of full-thickness burn, excision and grafting. Burns. 2016 Sep 3. pii: S0305-4179(16)30280-7. doi: 10.1016/j.burns.2016.08.006.

3. Chan RK, **Rose LF**, Wu JC, Tucker DI, Chan MM, Christy R, Hale RG, Leung KP. Autologous Graft Thickness Affects Scar Contraction and Skin Quality in a Porcine Excisional Wound Model. Plast Reconstr Surg Glob Open. 2015 Aug 10;3(7):e468.

doi: 10.1097/GOX.0000000000000426. eCollection 2015 Jul.

4. Rowan MP, Cancio LC, Elster EA, Burmeister DM, **Rose LF**, Natesan S, Chan RK, Christy RJ, Chung KK. Burn wound healing and treatment: review and advancements. Crit Care. 2015 Jun 12;19:243. doi: 10.1186/s13054-015-0961-2.

5. **Rose LF**, Wu JC, Carlsson AH, Tucker DI, Leung KP, Chan RK. Recipient wound bed characteristics affect scarring and skin graft contraction. Wound Repair Regen. 2015 Feb 13. doi: 10.1111/wrr.12267.

6. Wu JC, **Rose LF**, Christy RJ, Leung KP, Chan RK. Full-Thickness Thermal Injury Delays Wound Closure in a Murine Model. Adv Wound Care. 2015 Feb 1;4(2):83-91.

7. **Rose LF** and Chan RK. The Burn Wound Microenvironment. Adv Wound Care. June 2014. 10.1089/wound.2014.0536

8. Li Z, Roussakis E, Koolen PGL, Ibrahim AM, Kim K, **Rose LF**, Wu J, Nichols AJ, Baek YJ, Birngruber R, Apiou G, Matyal R, Huang T, Chan R, Lin S, Evans CL. Non-invasive Transdermal Two- dimensional Mapping of Skin, Burn, and Graft Oxygenation with a Rapid-Drying Liquid Bandage. Biomed Opt Express. 2014 Oct 1;5(11):3748-64.

9. Wu X, Meng X, Yan B, **Rose L**, Deng J, Xiang Y. Vaccinia Virus Virion Membrane Biogenesis Protein A11 Associates with Viral Membranes in a Manner that Requires the Expression of Another Membrane Biogenesis Protein A6. J Virol. 2012 Oct;86(20):11276-86. Epub 2012 Aug 8.

10. Meng X, Embry A, **Rose L**, Yan B, Xu C, Xiang Y. Vaccinia Virus A6 is Essential for Virion Membrane Biogenesis and Localization of Virion Membrane Proteins to Sites of Virion Assembly. J Virol. 2012 May;86(10):5603-13. Epub 2012 Mar 7.

11. Meng X, Schoggins J, **Rose L**, Cao J, Ploss A, Rice CM, Xiang Y. C7L Family of Poxvirus Host-range Genes Inhibit Antiviral Activities Induced by Type I Interferons and Interferon Regulatory Factor 1. J Virol. 2012 Apr;86(8):4538-47. Epub 2012 Feb 15.

12. Shivshankar P, Sanchez CJ, Rodriguez A, **Rose LF**, Orihuela CJ. The Streptococcus pneumoniae adhesin PsrP adheres to Keratin 10 in aged lungs. Mol Microbiol. 2009 Aug;73(4):663-79 Epub 2009 Jul 14.

13. **Rose L**, Shivshankar P, Hinojosa E, Rodriguez A, Sanchez CJ, Orihuela CJ. Antibodies against PsrP, a novel Streptococcus pneumoniae adhesin, block adhesion and protect mice against pneumococcal challenge. J Infect Dis. 2008 Aug 1;198(3):375-83.