



## Samuel Baker

Clinical Assistant Professor, Comparative Medicine

### Bio

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#### ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Comparative Medicine

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Association of Laboratory Animal medicine (2011 - present)
- Diplomate, American College of Laboratory Animal Medicine (2014 - present)

#### PROFESSIONAL EDUCATION

- DVM, Educational Commission for Foreign Veterinary Graduates , Veterinary Medicine (2013)
- VetMB, University of Cambridge , Veterinary Medicine (2011)
- BA, University of Cambridge , Zoology (2008)

### Publications

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#### PUBLICATIONS

- **A fluorescence sandwich immunoassay for the real-time continuous detection of glucose and insulin in live animals.** *Nature biomedical engineering*  
Poudineh, M., Maikawa, C. L., Ma, E. Y., Pan, J., Mamerow, D., Hang, Y., Baker, S. W., Beirami, A., Yoshikawa, A., Eisenstein, M., Kim, S., Vuckovic, J., Appel, et al  
2020
- **Design and Analysis of a Sample-and-Hold CMOS Electrochemical Sensor for Aptamer-Based Therapeutic Drug Monitoring** *IEEE JOURNAL OF SOLID-STATE CIRCUITS*  
Chien, J., Baker, S. W., Soh, H., Arbabian, A.  
2020; 55 (11): 2914–29
- **Electrophysiologic Conservation of Epicardial Conduction Dynamics After Myocardial Infarction in Newborn Piglets**  
Wang, H., Pong, T., Lucian, H., Aparicio-Valenzuela, J., Tada, Y., Sakhamuri, S., Baker, S. W., Tran, N. A., Paulsen, M. J., Zhu, Y., Lee, A. M., Woo, Y.  
LIPPINCOTT WILLIAMS & WILKINS.2020
- **An ultrafast insulin formulation enabled by high-throughput screening of engineered polymeric excipients.** *Science translational medicine*  
Mann, J. L., Maikawa, C. L., Smith, A. A., Grosskopf, A. K., Baker, S. W., Roth, G. A., Meis, C. M., Gale, E. C., Liang, C. S., Correa, S., Chan, D., Stapleton, L. M., Yu, et al  
2020; 12 (550)
- **Tumor shedding and metastatic progression after tumor excision in patient-derived orthotopic xenograft models of triple-negative breast cancer.** *Clinical & experimental metastasis*  
Razmara, A. M., Sollier, E., Kisirkoi, G. N., Baker, S. W., Bellon, M. B., McMillan, A., Lemaire, C. A., Ramani, V. C., Jeffrey, S. S., Casey, K. M.  
2020

- **Transient-mixed Chimerism With Nonmyeloablative Conditioning Does Not Induce Liver Allograft Tolerance in Nonhuman Primates.** *Transplantation*  
Chaudhry, S. n., Kato, Y. n., Weiner, J. n., Alonso-Guallart, P. n., Baker, S. n., Woodland, D. C., Lefkowitz, J. H., Duran-Struuck, R. n., Sondermeijer, H. P., Zitsman, J. n., Sears, M. L., Wu, A. n., Karolewski, et al  
2020; 104 (8): 1580–90
- **In Vivo Validation of Restored Chordal Biomechanics After Mitral Ring Annuloplasty in a Rare Ovine Case of Natural Chronic Functional Mitral Regurgitation.** *Journal of cardiovascular development and disease*  
Wang, H. n., Paulsen, M. J., Imbrie-Moore, A. M., Tada, Y. n., Bergamasco, H. n., Baker, S. W., Shudo, Y. n., Ma, M. n., Woo, J. Y.  
2020; 7 (2)
- **A co-formulation of supramolecularly stabilized insulin and pramlintide enhances mealtime glucagon suppression in diabetic pigs.** *Nature biomedical engineering*  
Maikawa, C. L., Smith, A. A., Zou, L. n., Roth, G. A., Gale, E. C., Stapleton, L. M., Baker, S. W., Mann, J. L., Yu, A. C., Correa, S. n., Grosskopf, A. K., Liong, C. S., Meis, et al  
2020
- **Multi-phase catheter-injectable hydrogel enables dual-stage protein-engineered cytokine release to mitigate adverse left ventricular remodeling following myocardial infarction in a small animal model and a large animal model** *Cytokine*  
Steele, A. N., Paulsen, M. J., Wang, H., Stapleton, L. M., Lucian, H. J., Eskandari, A., Hironaka, C. E., Farry, J. M., Baker, S. W., Thakore, A. D., Jaatinen, K. J., Tada, Y., Hollander, et al  
2020; 127
- **Design and Analysis of a Sample-and-Hold CMOS Electrochemical Sensor for Aptamer-based Therapeutic Drug Monitoring.** *IEEE journal of solid-state circuits*  
Chien, J. C., Baker, S. W., Soh, H. T., Arbabian, A. n.  
2020; 55 (11): 2914–29
- **Autologous Transplantation of Skin-Derived Precursor Cells in a Porcine Model.** *Journal of pediatric surgery*  
Thomas, A., Taylor, J. S., Huynh, N., Dubrovsky, G., Chadarevian, J., Chen, A., Baker, S., Dunn, J. C.  
2019
- **Ultrasound/microbubble-mediated targeted delivery of anticancer microRNA-loaded nanoparticles to deep tissues in pigs.** *Journal of controlled release : official journal of the Controlled Release Society*  
Di Ianni, T., Bose, R. J., Sukumar, U. K., Bachawal, S., Wang, H., Telichko, A., Herickhoff, C., Robinson, E., Baker, S., Vilches-Moure, J. G., Felt, S. A., Gambhir, S. S., Paulmurugan, et al  
2019
- **In Vivo Wireless Sensors for Gut Microbiome Redox Monitoring.** *IEEE transactions on bio-medical engineering*  
Baltsavias, S. n., Van Treuren, W. n., Weber, M. n., Charthad, J. n., Baker, S. n., Sonnenburg, J. L., Arbabian, A. n.  
2019
- **Use of a supramolecular polymeric hydrogel as an effective post-operative pericardial adhesion barrier.** *Nature biomedical engineering*  
Stapleton, L. M., Steele, A. N., Wang, H. n., Lopez Hernandez, H. n., Yu, A. C., Paulsen, M. J., Smith, A. A., Roth, G. A., Thakore, A. D., Lucian, H. J., Totherow, K. P., Baker, S. W., Tada, et al  
2019; 3 (8): 611–20
- **A Bird's-Eye View of Regulatory, Animal Care, and Training Considerations Regarding Avian Flight Research.** *Comparative medicine*  
Baker, S. W., Tucci, E. R., Felt, S. A., Zehnder, A. n., Lentink, D. n., Vilches-Moure, J. G.  
2019
- **A mm-Sized Wireless Implantable Device for Electrical Stimulation of Peripheral Nerves** *IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS*  
Charthad, J., Chang, T., Liu, Z., Sawaby, A., Weber, M. J., Baker, S., Gore, F., Felt, S. A., Arbabian, A.  
2018; 12 (2): 257–70
- **Effect of Ex Vivo-Expanded Recipient Regulatory T Cells on Hematopoietic Chimerism and Kidney Allograft Tolerance Across MHC Barriers in Cynomolgus Macaques** *TRANSPLANTATION*  
Duran-Struuck, R., Sondermeijer, H. P., Buhler, L., Alonso-Guallart, P., Zitsman, J., Kato, Y., Wu, A., McMurphy, A. N., Woodland, D., Griesemer, A., Martinez, M., Boskovic, S., Kawai, et al  
2017; 101 (2): 274–83

- **Using reduced personal protective equipment in an endemically infected mouse colony.** *Journal of the American Association for Laboratory Animal Science : JAALAS*  
Baker, S. W., Prestia, K. A., Karolewski, B. n.  
2014; 53 (3): 273–77
- **Temporal lobe epilepsy in a cat with a pyriform lobe oligodendroglioma and hippocampal necrosis** *JOURNAL OF FELINE MEDICINE AND SURGERY*  
Vanhaesebrouck, A. E., Posch, B., Baker, S., Plessas, I. N., Palmer, A. C., Constantino-Casas, F.  
2012; 14 (12): 932–37
- **THE ROLE OF THE EURASIAN SPARROWHAWK (ACCIPITER NISUS) IN THE DECLINE OF THE HOUSE SPARROW (PASSER DOMESTICUS) IN BRITAIN** *AUK*  
Bell, C. P., Baker, S. W., Parkes, N. G., Brooke, M. L., Chamberlain, D. E.  
2010; 127 (2): 411–20