



Wm. LeRoy Heinrichs

NIH Biosketch available Online

Curriculum Vitae available Online

Resume available Online

Bio

ACADEMIC APPOINTMENTS

- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Affiliate, Stanford Medical Informatics, (2001- present)

HONORS AND AWARDS

- SATAVA Award, MMVR Medicine Meets Virtual Reality (Jan 2003)
- President's Award, American College of Obstetrics and Gynecology (1975)
- Faculty Fellow, Josiah Macy, Jr. Foundation (1966)
- Grand Prize, GameTech 2011 Users Conference Federal Consortium of Virtual Worlds (March 24, 2011)
- Grand Prize, GameTech 2012 Users Conference, Federal Consortium of Virtual Worlds (March 25, 2012)

PROFESSIONAL EDUCATION

- M.D., University of Oklahoma , Medicine (1958)
- M.S., Ph.D., University of Oregon , Biochemistry (Steroids) (1967)

LINKS

- corporate url: <http://www.innovationinlearning.com>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Surgical simulation; team-training in virtual environments;telemedicine for acute & chronic disease management in virtual environments; developing patho-physiological models for acute and chronic diseases, and complications of pregnancy.

Publications

PUBLICATIONS

- **Virtual Worlds in Healthcare: Applications and Implications** *SERIOUS GAMES FOR HEALTHCARE: APPLICATIONS AND IMPLICATIONS*
Heinrichs, W., Davies, D., Davies, J., Arnab, S., Dunwell, I., Debattista, K.
2013: 1–22
- **Simulators for learning basic skills, tasks, and endoscopic surgical procedures** *NEZHAT'S VIDEO-ASSISTED AND ROBOTIC-ASSISTED LAPAROSCOPY AND HYSTEROSCOPY, 4TH EDITION*

- Heinrichs, W., LaShay, N.
edited by Nezhat, C., Nezhat, F., Nezhat, C.
2013: 614–27
- **CliniSpace: a multiperson 3D online immersive training environment accessible through a browser.** *Studies in health technology and informatics*
Dev, P., Heinrichs, W. L., Youngblood, P.
2011; 163: 173-179
 - **Exploring Virtual Worlds for Scenario-Based Repeated Team Training of Cardiopulmonary Resuscitation in Medical Students** *JOURNAL OF MEDICAL INTERNET RESEARCH*
Creutzfeldt, J., Hedman, L., Medin, C., Heinrichs, W. L., Fellander-Tsai, L.
2010; 12 (3)
 - **Training Healthcare Personnel for Mass Casualty Incidents in a Virtual Emergency Department; VED II** *Pre-hospital and Disaster Medicine*
Heinrichs WL, Harter P, Youngblood P, Kusumoto L, Dev P
2010; 25 (5): 422-434
 - **Design and Implementation of Rule-based Medical Models: An In Silico Pathophysiological Trauma Model for Hypovolemic Shock** *16th Conference on Medicine Meets Virtual Reality*
Heinrichs, W. L., Kung, S., Dev, P.
I O S PRESS.2008: 159–164
 - **LAPAROSCOPY SIMULATORS FOR TRAINING BASIC SURGICAL SKILLS, TASKS, AND PROCEDURES** *NEZHAT'S OPERATIVE GYNECOLOGIC LAPAROSCOPY AND HYSTEROSCOPY, 3RD EDITION*
Heinrichs, W.
edited by Nezhat, C., Nezhat, F., Nezhat, C.
2008: 552–61
 - **Simulation for Team Training and Assessment: Case Studies of Online Training with Virtual Worlds** *World Journal of Surgery; Special Issue*
Heinrichs WL, Youngblood P, Harter PM, Dev P.
2008; 32 (161): 161-170
 - **Design, Development and Evaluation of an Online Virtual Emergency Department for Training Trauma Teams.** *Simulation in Healthcare*
Youngblood P, Harter P, Srivastava S, Wallin C-J, Fellander-Tsai L, Moffet S, Heinrichs WL.
2008; 3 (3 Fall): 146-153
 - **Criterion-based training with surgical simulators: proficiency of experienced surgeons.** *JSLS : Journal of the Society of Laparoendoscopic Surgeons / Society of Laparoendoscopic Surgeons*
Heinrichs, W. L., Lukoff, B., Youngblood, P., Dev, P., Shavelson, R., Hasson, H. M., Satava, R. M., McDougall, E. M., Wetter, P. A.
2007; 11 (3): 273-302
 - **Virtual worlds and team training.** *Anesthesiology clinics*
Dev, P., Youngblood, P., Heinrichs, W. L., Kusumoto, L.
2007; 25 (2): 321-336
 - **Virtual patient model for multi-person virtual medical environments.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
Dev, P., Heinrichs, W. L., Youngblood, P., Kung, S., Cheng, R., Kusumoto, L., Hendrick, A.
2007: 181-185
 - **Implementing Virtual Worlds for Systematic Training of prehospital CPR in Medical School**
Creutzfeldt, J., Hedman, L., Medin, C., Wallin, C. J., Hendrick, A., Youngblood, P., Heinrichs, W. L., Fellander-Tsai, L.
edited by Westwood, J. D., Haluck, R. S., Hoffman, H. M., Mogel, G. T., Phillips, R., Robb, R. A., Vosburgh, K. G.
IOS PRESS.2007: 82+
 - **Avatars Alive! The Integration of Physiology Models and Computer Generated Avatars in a Multiplayer Online Simulation** *15th Conference on Medicine Meets Virtual Reality*
Kusumoto, L., Heinrichs, W. L., Dev, P., Youngblood, P.
I O S PRESS.2007: 256–258

- **Virtual Worlds for Teaching the New CPR to High School Students** *15th Conference on Medicine Meets Virtual Reality*
Youngblood, P., Hedman, L., Creutzfeld, J., Fellander-Tsai, L., Stengard, K., Hansen, K., Dev, P., Srivastava, S., Kusumoto, L., Hendrick, A., Heinrichs, W. L.
I O S PRESS.2007: 515–519
- **Comparison of training on two laparoscopic simulators and assessment of skills transfer to surgical performance** *JOURNAL OF THE AMERICAN COLLEGE OF SURGEONS*
Youngblood, P. L., Srivastava, S., Curet, M., Heinrichs, W. L., Dev, P., Wren, S. M.
2005; 200 (4): 546-551
- **The fundamental manipulations of surgery: A structural vocabulary for designing surgical curricula and simulators** *JOURNAL OF THE AMERICAN ASSOCIATION OF GYNECOLOGIC LAPAROSCOPISTS*
Heinrichs, W. L., Srivastava, S., Montgomery, K., Dev, P.
2004; 11 (4): 450-456
- **Initial evaluation of a shoulder arthroscopy simulator: Establishing construct validity** *JOURNAL OF SHOULDER AND ELBOW SURGERY*
Srivastava, S., Youngblood, P. L., Rawn, C., Hariri, S., Heinrichs, W. L., Ladd, A. L.
2004; 13 (2): 196-205
- **LUCY,v2.6: A 3D pelvic model for surgical simulation.** *Journal of the American Association of Gynecologic Laparoscopists*
Heinrichs WL, Srivastava S, Dev P, Chase R.
2004; 11 (No. 3): 326-331
- **Simulated medical learning environments on the Internet** *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION*
Dev, P., Montgomery, K., Senger, S., Heinrichs, W. L., Srivastava, S., Waldron, K.
2002; 9 (5): 437-447
- **Visual representations of physical abilities: Reverse haptic technology?** *10th Annual Medicine Meets Virtual Reality Conference*
Pugh, C. M., Srivastava, S., Heinrichs, M. L.
I O S PRESS.2002: 380–381
- **"Surgical Simulator for Diagnostic and Operative Hysteroscopy", in Proc.15th Annual Int'l Computer- Assisted Radiology & Surgery (CARS)** *H. Lemke ed.) Elsevier Science Press, Amsterdam, The Netherlands*
Heinrichs, L., Montgomery, K; Bruyns, C; Wildermuth, S; Hasser, C; Ozenne, S; Bailey, D;
2001
- **Simulated learning environments in anatomy and surgery delivered via the Next Generation Internet** *10th World Congress on Medical Informatics (MEDINFO 2001)*
Dev, P., Heinrichs, W. L., Srivastava, S., Montgomery, K. N., Senger, S., Temkin, B., Hasser, C., Latombe, J. C., HEEGAARD, J., Youngblood, P., Friedman, C. P., Waldron, K.
I O S PRESS.2001: 1014–1018
- **The effect of simulator use on learning and self-assessment: The case of Stanford University's E-Pelvis simulator** *Conference on Medicine Meets Virtual Reality 2001*
Pugh, C. M., Srivastava, S., SHAVELSON, R., Walker, D., Cotner, T., Scarloss, B., Kuo, M., Rawn, C., Dev, P., Krummel, T. H., Heinrichs, L. H.
I O S PRESS.2001: 396–400
- **Virtual body structures: a 3D structure development tool from visible human data.** *Studies in health technology and informatics*
Stephens, B., Temkin, B., Krummel, T. M., Heinrichs, W. L.
2000; 70: 323-326
- **Visual language to interface users of educational surgical simulators for fundamental surgical manipulations** *14th International Congress and Exhibition on Computer Assisted Radiology and Surgery (CARS 2000)*
Heinrichs, W. L., Srivastava, S., Pugh, C., Rakhlin, L., Montgomery, K., PICHUMANI, R., Rao, S., Dev, P.
ELSEVIER SCIENCE BV.2000: 29–34
- **G2H--graphics-to-haptic virtual environment development tool for PC's.** *Studies in health technology and informatics*
Acosta, E., Temkin, B., Krummel, T. M., Heinrichs, W. L.
2000; 70: 1-3

- **Human issues and medical economics of endometriosis - Three- vs. six-month GnRH-agonist therapy** *JOURNAL OF REPRODUCTIVE MEDICINE*
Heinrichs, W. L., Henzl, M. R.
1998; 43 (3): 299-308
- **Formative design of a virtual learning environment** *Conference on Medicine Meets Virtual Reality 6*
Dev, P., PICHUMANI, R., Walker, D., Heinrichs, W. L., Karadi, C., Lorie, W.
I O S PRESS.1998: 392-398
- **The design of Frog Island: A VRML world for biology** *Virtual Worlds and Simulation Conference (VWSIM 98) at the 1998 Western MultiConference*
PICHUMANI, R., Walker, D., Heinrichs, W. L., Karadi, C., Lorie, W. A., Dev, P.
SOC MODELING SIMULATION INT-SCS.1998: 31-36
- **Information Frames: A new multimedia approach to web-based learning of biology and medicine** *Conference on Medicine Meets Virtual Reality 6*
Heinrichs, W. L., PICHUMANI, R., Mather, R., Dev, P.
I O S PRESS.1998: 370-372
- **Therapeutic efficacy and bone mineral density response during and following a three-month re-treatment of endometriosis with nafarelin (Synarel)** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*
Adamson, G. D., Heinrichs, W. L., Henzl, M. R., Yuzpe, A. A., Berquist, C., Jacobson, J. J., Eriksson, S., Kwei, L., Gilbert, S. M.
1997; 177 (6): 1413-1418
- **Use of nafarelin versus placebo after reductive laparoscopic surgery for endometriosis** *52nd Annual Meeting of the American-Society-for-Reproductive-Medicine*
Hornstein, M. D., Hemmings, R., Yuzpe, A. A., Heinrichs, W. L.
ELSEVIER SCIENCE INC.1997: 860-64
- **Acquisition of Eye-hand Coordination Skills for Videoendoscopic Surgery** *The Journal of the American Association of Gynecologic Laparoscopists*
Tsai, C. L., Heinrichs, W. L.
1994; 1 (4, Part 2): S37
- **INTERLEUKIN-1 TYPE-I RECEPTOR MESSENGER-RIBONUCLEIC-ACID EXPRESSION IN HUMAN ENDOMETRIUM THROUGHOUT THE MENSTRUAL-CYCLE** *FERTILITY AND STERILITY*
Simon, C., Piquette, G. N., Frances, A., Westphal, L. M., Heinrichs, W. L., Polan, M. L.
1993; 59 (4): 791-796
- **MIDGESTATIONAL EXPOSURE OF PREGNANT BALB/C MICE TO MAGNETIC-RESONANCE IMAGING CONDITIONS** *MAGNETIC RESONANCE IMAGING*
Heinrichs, W. L., Fong, P., Flannery, M., Heinrichs, S. C., Crooks, L. E., SPINDLE, A., Pedersen, R. A.
1988; 6 (3): 305-313
- **NONINVASIVE DETERMINATION OF ULNAR STIFFNESS FROM MECHANICAL RESPONSE - INVIVO COMPARISON OF STIFFNESS AND BONE-MINERAL CONTENT IN HUMANS** *JOURNAL OF BIOMECHANICAL ENGINEERING-TRANSACTIONS OF THE ASME*
Steele, C. R., Zhou, L. J., Guido, D., Marcus, R., Heinrichs, W. L., Cheema, C.
1988; 110 (2): 87-96
- **SUCCESSFUL TREATMENT OF PULMONARY LYMPHANGIOMYOMATOSIS WITH OOPHORECTOMY AND PROGESTERONE** *AMERICAN REVIEW OF RESPIRATORY DISEASE*
Adamson, D., Heinrichs, W. L., RAYBIN, D. M., Raffin, T. A.
1985; 132 (4): 916-921
- **PLACENTAL STEROID SULFATASE DEFICIENCY - ASSOCIATION WITH ARYLSULFATASE-A DEFICIENCY** *AMERICAN JOURNAL OF HUMAN GENETICS*
Vidgoff, J., BUXMAN, M. M., Shapiro, L. J., DIMOND, R. L., Wilson, T. G., HEPBURN, C. A., Tabei, T., Heinrichs, W. L.
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- **A PRACTICAL APPROACH TO THE PATIENT WITH DYSMENORRHEA** *JOURNAL OF REPRODUCTIVE MEDICINE*
Heinrichs, W. L., Adamson, G. D.

1980; 25 (4): 236-242

- **DIFFERENTIATION AND REGULATION OF PERIPHERAL ANDROGEN METABOLISM IN RATS AND RHESUS-MONKEYS** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*

Heinrichs, W. L., Tabei, T., Kuwabara, Y., Burry, K., Resko, J., Petra, P., SHILLER, H., Namkung, P.
1979; 135 (7): 974-983