CURRICULUM VITAE

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Education and Training:

M.D. degree	**1999 – 2005**	Odessa State Medical University, Ukraine
Internship	**2004 – 2005**	Odessa State Medical University, Ukraine
ESL program	**2005**	University of Houston

Professional Experience/Employment History:

2007 LSUHSC, Research Associate
2007 – 2011 LSUHSC, Human Patient Simulation Center, Instructor
2011 – present LSUHSC, Human Patient Simulation Center, Assistant Professor of Clinical Interdisciplinary Human Studies

Professional Organization Memberships:

2007- present Society for Simulation in Healthcare

Grants and Contracts Funded:

2006-2008 AHRQ Patient Safety $500,000 grant - awarded
2009-2010 Effectiveness of Teamwork and Communication in a Critical Care Code Scenario Using Interdisciplinary High-Fidelity Human Patient Simulation with Students from Four Professional Programs. $ 5,503.71
2009-2010 High Fidelity Simulation-Based Inter-professional Operating Room Team Training for Medical, Nurse Anesthesia and Undergraduate Nursing Students $ 6,159.64
2009-2010 High Fidelity Simulation-Based Inter-professional Emergency Room Team Training for Medical, Nurse Anesthesia and Undergraduate Nursing Students
2011 Teamwork Training of Inter-Professional Undergraduate students $ 3,400.00

Major Areas of Research Interest

1. Studying pathophysiological mechanisms of different medical conditions, methods of their pharmacological and non-pharmacological treatment as well as developing new methods of teaching for the health care professionals with use of the best principles of adult learning and teaching.
2. Physiological modeling of different medical conditions.
3. Developing an assessment tool for measuring clinical performances Research and development of new methods of improving of interdisciplinary team communication skills in medical teams in stressful environment.

Simulators Operation, Maintenance and Troubleshooting:

METI -ECS
METI -PEDs ECS
METI -HPS
METI -PEDs HPS
METI -Istan
ASL 5000 - Ingmar Medical (Lung Simulator)
VIST Cardiovascular simulator
SimMan
Simbionix Surgical Lab Trainer
NASCO Crisis Mannequins

Teaching Experience:

2007 – Present: Instructor for Required Simulation courses for the third year medical students from the Internal Medicine, Surgery and Pediatrics rotations.
Each course contains several case scenarios:

- Internal Medicine:
  - **a.** Unstable atrial fibrillation
  - **b.** Stable atrial fibrillation
  - **c.** Congestive Heart Failure/Pulmonary Edema
- Surgery:
  - **a.** Third degree burns management "Burn Patient"
  - **b.** Multiple Trauma management
- Pediatrics:
  - **a.** Asthma exacerbation "Status Asthmaticus"
  - **b.** Septic shock Meningitis
  - **c.** Septic shock Pneumonia

2010 - Present: Instructor For Mechanical ventilation 101" – Introductory course for Internal medicine residents about mechanical ventilation physiology, available modes, basic concepts and parameters used in intensive care units for adult patients intubated for various conditions such as asthma, COPD, ARDS, Guillian-Barre, drug overdose, sepsis.

2007 – 2011 Co-Instructor for Elective Simulation course for Anesthesiology residents

Case #1 Simple IV induction into anesthesia
Case #2 Anesthesia in septic patient
Case #3 Intraoperative septic shock
Case #4 Intraoperative septic shock
Case #5 Intraoperative hypercarbia as a result of anesthesia equipment malfunctioning (exhausted absorber)
Case #6 Light anesthesia and intraoperative awareness in a patient with high tolerance of opioids and family history of malignant hyperthermia
Case #8 Intraoperative electrolyte imbalance and acute inferior MI in a patient as a result of a clerical mistake
Case #9 Intraoperative malignant hyperthermia
Case #10 Intraoperative bleeding with hemorrhagic shock
Case #11 Intraoperative hypertension and tachycardia due to unrecognized pheochromocytoma
Case #12 Laryngospasm during induction into anesthesia with low pressure pulmonary edema
Case #13 Intraoperative bronchospasm followed by the pneumothorax and PEA

2008 –Present: Instructor for Required Airway Management Simulation course for Allied Health (CPSC) students

Course includes:

a. PowerPoint presentation
b. Airway assessment,
c. Airway management: intubation and bag valve ventilation

2009 – Present: Instructor for Required Patient Assessment Simulation course for Allied Health (CPSC) students

Course includes:

a. Infection Control Lab
b. Vital Signs Lab
c. Lung Sounds Lab
d. Heard Sounds Lab
e. Case Scenario Simulation

2007 – Present: Co-Instructor for Internal Medicine residents Skill Fair.
This activity includes combination of case scenarios and practical skills.

Patient Simulation Cases:

- Airway management
- Effective patient ventilation - manual and mechanical
- Diagnosis and management of hemodynamically unstable patients
- Diagnosis and management of patients with multiple trauma (e.g., pneumothorax, internal bleeding. etc.)
- Diagnosis and management of patients with arrhythmias
- Diagnosis and management of patients with respiratory problems (e.g., asthma, ARDS, COPD etc)
- Diagnosis and management of patients with pregnancy complications
- Diagnosis and management of patients with general anesthetic complications
- Diagnosis and management of patients with anaphylactic reactions
- Diagnosis and management of patients with thermal injury
- Diagnosis and management of patients with shock (e.g., septic, cardiogenic, etc.)
- Diagnosis and management of patients with thrombotic complications (e.g., pulmonary, coronary)
- Diagnosis and management of patients with Inferior Posterior Myocardial Infarction
- Diagnosis and management of patients with Congestive Heart Failure (CHF)
- Diagnosis and management of patients with Unstable Atrial Fibrillation
- Diagnosis and management of patients with Stable Atrial Fibrillation
- Diagnosis and management of patients with Third Degree Heart Block

<u>The following principles were used in the development and implementation of all listed above curricula:</u>

Curriculum Design

- Based on standard treatment protocols and principles of best practices
- Reviewed and validated by content experts
- Pre-programmed into dynamic and highly interactive scenarios

Learning Objectives

- Systemic approach to patient assessment and medical management
- Developing and improving doctor/patient and team communication skills
- Safe, effective patient care in stressful environments
- Effective critical reasoning in partially transparent reality
- Professionalism

Method of Teaching

- Small Group Teaching
- Student-focused simulator-based
- Teaching through inquiry
- Outcome-based training
- Controlled stress environment
- Reinforcement of procedural and cognitive skills

Administrative Responsibilities

1. Carrying responsibility for the developing and improving Simulation Lab curriculum for the Allied Health students, 3rd year medical students and the 4th year anesthesiology rotation medical students.
2. Developing curriculum and administration of teaching to interdisciplinary surgical teams (surgeons, anesthesiologists, CRNA's, nurses)
3. Maintenance and troubleshooting of the Human Patient Simulation system.
4. Management of equipment and supplies needed for running the Anesthesia and Critical Care Simulation Lab.
5. Development of educational software.
6. Educating and supervising faculty as a simulation specialists at LSU Health Sciences Center.
7. Conducting simulator based teaching and training for the internal medicine and emergency medicine residents.

Honors and Awards

2009 – 2010 Educational Enhancement Grant Award.
Academy for the Advancement of Educational Schools.
"Effectiveness of Teamwork and Communication in a Critical Care Code Scenario Using High-Fidelity Human Patient Simulation with Students from Four Professional Programs"

2005 Louisiana Capital Area Chapter of the American Red Cross

Special skills

1. Developing custom simulation software to enhance the learning experience of students at LSUHSC in the Schools of Allied Health Professions, Medicine and Nursing. This custom software allows to overcome a significant limitations of commercially available simulators.
2. Advanced computer skills (Macintosh OS 10 system administering, RealBasic and AplleScrip programming, Windows based systems)
3. Able independently develop a simulation case scenarios and script those into simulation software and provide detailed feedback to the trainees.
4. Web design in Freeway Pro 5, created a web-based video tutorial for Allied Health School.
5. Developing Virtual Simulator "Rachel Morgan" 3D avatar. This software is designed to teach all levels of respiratory care professionals to take care of a patient after a thoracic surgery
6. Advance photo, video shooting and editing.
7. Excellent presentation and facilitation skills.
8. Strong organization and communication skills.
9. Efficient transfer of existing knowledge and skills into new domains.
10. Excellent critical thinking skills with ability to prioritize needs rapidly.
11. Great sense of leadership to support educational needs.
12. Strong analytical skills.

Publications:

Journal Articles

1. A. Hilton, V. Kozmenko, **V. Rusnak,** V. Kiselov, "*Screen-based simulation prototype for teaching hypovolemic shock to medical students a supplement to in vivo labs"* , Southern Society for Clinical Investigation, New Orleans, LA, February 2009
2. Kozmenko V, Paige J, Yang T, Paragi R, **Rusnak V**, Hilton C, Cohn I, Chauvin S. *Initial Implementation of Mixed Reality Simulation Targeting Teamwork and Patient Safety*. Studies in Health Technology and Informatics, 132, 216-221, 2008

Papers Presented & Abstracts

1. Pierre Detiege, MD, Sean Hardy, MD, Mark Rice, MD, Daryl Lofaso, M.Ed2 **Vadym Rusnak**, **MD**. *Disaster Simulation in Emergency Medicine Education*. IMSH 2011 - 11th Annual International Meeting on Simulation in Healthcare New Orleans, LA, January 2011.

2. Paige J, Yang T, Guraraja Paragi R , Garbee D, Kozmenko V, **Rusnak V,** Kozmenko L, Bonanno L, Chauvin S . (*Surgical Simulations: Technical Knowledge and Skills, Teamwork, and Interprofessional Learning*. Paper presented at the American Educational Research Association Annual Meeting in New Orleans, Louisiana. 2011, April

3. Chauvin S, **Rusnak V**, Kozmenko V, Paige J, Paragi R, Yang T. *Strategies for Effective Implementation of Simulation-Based Teamwork Training at the Point-of-Care*. Oral presentation at the annual meeting of the Southern Group on Educational Affairs Association of American Medical Colleges, New Orleans, LA, April 2009
4. Kozmenko V**,** Kaye A, **Rusnak V**, Kiselov V. Hilton C.*"Advanced Case Scenarios Based on the Clinical Model Provide More Effective Training for Anesthesiology Residents and Students"* presented at the AUA 55th Meeting hosted by Duke University, Durham, NC, May 15-18, 2008
5. Kozmenko V, Paige J, Yang T, Paragi R, **Rusnak V,** Hilton C, Cohn I, Chauvin S. (2008). Initial Implementation of Mixed Reality Simulation Targeting Teamwork and Patient Safety. *Studies in Health Technology and Informatics*, 132, 216-221

Non-print Media:

2011	Virtual SimLab software its an application which simulate a laboratory data such as : CBC, CMP, ABGs, Coagulation Steadies, LFT, its also simulate stat ECGs and XRays.
2011	Developing assessment video tools for Allied Health professions.
2010	Video shooting/editing of simulation sessions for educational purposes with the use of METI Vision, Finale Cut Pro.
2010	Developing and implementing of curriculum employing simulation in management of major medical emergencies for the Emergency Medicine, Internal Medicine and Pediatrics residencies Residency Skills Fair
2009	Co-Developer for prototype software for simulation curriculum for Basic Sciences (Physiology, Pharmacology).

2009	Developing a speaking module for high fidelity simulators. Using this software allows the trainees to verbally communicate with the simulated patient, ask questions, provide verbal comfort for the patient, asking for consent etc.
2009	Developing a shell-program with a very user friendly interface that significantly simplifies usage of the HPS and ECS simulators. Based on the feedback from the faculty from several departments, running the HPS with the use of this custom software became very intuitive for clinicians. This software has been used on a regular basis during the OR and ER team training courses as well as during the Internal Medicine Skills Fairs.
2009	Developing Web-based video tutorial "How to use screen based simulator" The purpose of this tutorial was to familiarize the faculty with the features and functionality of the "Rachel Morgan Patient Simulation" software and how the use of this simulator can enhance the teaching for the Allied Health Professions students
2008	Developing and implementing of curriculum employing simulation in management of major medical emergencies for the Internal Medicine and Pediatrics residencies Residency Skills Fair
2008	Developing video tutorials for the endovascular simulator VIST.

Professional Presentation:

Seminars & Invited Presentations

1. **Vadym Rusnak.** (2010, February) *Asthma management simulation course*. American Academy of Allergy, Asthma & Immunology. New Orleans. LA

2. Chauvin S, Kozmenko V, Paige J, Paragi R, Yang T, **Rusnak V.** (2009, April). *Strategies for Effective Implementation of Simulation-Based Teamwork Training at the Point-of-Care*. Oral presentation at the annual meeting of the Southern Group on Educational Affairs Association of American Medical Colleges, New Orleans, Louisiana.

3. **V. Rusnak, V**.Kozmenko, V. Kiselov, C. Hilton, (April 2009.) *Teaching Medical Students With the use of high fidelity simulator.* Annual Conference of the Student National Medical Association, New Orleans, LA.

4. Kozmenko V, Paige J, Yang T, Paragi R, **Rusnak V**, Hilton C, Cohn, Jr. I, Chauvin S. (2008, January). *Conducting a Multidisciplinary Team Training Course to Improve OR Patient Safety at the Point of Healthare with the Use of High Fidelity Human Patient Simulation*. Poster presentation at the annual meeting for the Society for Simulation in Healthcare, San Diego, California.

5. Chauvin S, Hilton C, Kozmenko V, Yang T, Paige P, Lofaso D, Hoxsey R, Paragi R, **Rusnak V.** (2008, November). *Applying a "Core Laboratory" Concept to Facilitate Collaborative*

Educational Excellence and Scholarship. Oral presentation at the Innovations in Medical Education at the annual meeting of the Association of American Medical Colleges, San Antonio, Texas.