

# Integrating Music, Games, and Medicine



Grzegorz Bulaj

Assistant Professor of Medicinal Chemistry  
Research Associate Professor of Biology  
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## CURRENT RESEARCH

### Developing Molecular-Behavioral Combination Therapies for Chronic Diseases

Epilepsy, cancer, arthritis, pain, depression, migraine, diabetes, cardiovascular and other chronic diseases require long-term medical treatments. Patients and their caregivers face many challenges, including taking prescription medications and management of disease symptoms. To accelerate remission, new therapies consisting of digital health, music, self-care and medications are being developed. Dr. Grzegorz Bulaj, PhD, of the University of Utah, is investigating the integration of digital technologies with pharmacological interventions. Mobile and digital technologies are already transforming healthcare, including video and music games, or mobile apps, becoming medical treatments approved by the US Food and Drug Administration.

Dr. Bulaj has been involved in drug discovery and development of therapies for neurological disorders for over 17 years. In 2011, discussions between him and pediatric oncologist Carol Bruggers, MD, birthed a concept of the Patient Empowerment-Exercise Video Game, with the goal to empower cancer patients during chemotherapy by bridging physical exercise and mental conditioning. The proof-of-concept video game was created as a collaborative project with Entertainment Arts & Engineering faculty and students from the Master Games Studio. A unique aspect of Dr. Bulaj's research is paving a way to incentivize innovative medical treatments with generic drugs by adding copyrighted art and software. Developing molecular-behavioral combination therapies by means of drug-device combination products has a long-term goal of creating more affordable treatments, which embrace patient self-care.

Dr. Bulaj's current projects include:

- Mobile Video Game Therapy for...

## AFFILIATION

 University of Utah

## EDUCATION

- Ph.D. in Biophysical Chemistry 1993, University of Wroclaw
- M.Sc. in Biochemistry 1989, University of Wroclaw

## RESEARCH AREAS

Life Science, Health IT, Oncology / Cancer, Telemedicine

## FUNDING REQUEST

Your contributions will support Dr. Bulaj's research projects, including support of undergraduate and graduate students. Donations will help advance each project, which involves cross-disciplinary collaborations with clinicians, pharmacologists, psychologists, video game producers and music artists, UX designers, software developers and bioengineers.

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