

## Revolutionary Transformation of Medicine with BioElectromagnetic Technology



emulatetx.com Bellevue, WA 

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### Our Founder



**Kyle KINGMA** Chief Financial Officer

## Revolutionary Transformation of Medicine with BioElectromagnetic Technology

### No Pills, No Injections, Just Pure Energy: The Future of Treatment Has Arrived

Imagine a world where cancer patients, such as children with brain tumors, could receive life-saving treatment without toxic chemotherapy. Where chronic pain sufferers could find relief without addictive opioids. Where mental health conditions could be managed with no significant observed side effects. This isn't science fiction, this is happening now at EMulate Therapeutics.

### We Cracked the Code

EMulate has solved one of medicine's most elusive challenges: delivering therapeutic benefits without physical drugs. Here's how it works in simple terms:

Every molecule, including medicines, creates unique electromagnetic "fingerprints" as it moves. Think of it like each drug having its own song. EMulate's scientists use ultra-sensitive equipment to record these molecular songs, then play them back to patients using safe, low-energy radio waves through a simple wearable device.

**The result?** Your body responds as if it received the actual medication, but without any chemicals entering your system. No toxicity. No observed significant side effects. Just therapeutic benefits.

### u/RFE® Technology

A proprietary mechanism for the non-toxic, non-invasive, non-ionizing and effective treatment of cancer, pain, mental health and general wellness.



# Cancer Treatment

## Pediatric Brain Cancer: A Breakthrough Where None Existed

EMulate's most advanced program targets Diffuse Midline Glioma (DMG), including Diffuse Intrinsic Pontine Glioma (DIPG), devastating childhood brain cancers that have seen no meaningful treatment advances in decades.

**The Drug They Emulate:** Paclitaxel (Taxol), a powerful chemotherapy drug that works by disrupting cancer cell division. While highly effective against many cancers, paclitaxel cannot cross the blood-brain barrier, making it useless for brain tumors until now.

### Clinical Results

- ✓ 86% of children (12 out of 14) survived beyond 12 months compared to historical median survival of 10-11 months
- ✓ Zero device-related serious adverse events reported
- ✓ Patients received treatment 24/7 through a comfortable, wearable device

The science behind this success: EMulate's "song" of paclitaxel, like the drug itself, promotes tubulin polymerization (the process that slows cancer cell division), but delivers this effect directly to brain tumors, unlike drugs, which would need to (but cannot) cross the blood-brain barrier.

## Adult Brain Cancer (Glioblastoma): First Real Progress in Decades

For glioblastoma multiforme (GBM), the most common and aggressive adult brain cancer, EMulate's Voyager system has shown remarkable result

### Clinical Performance

- ✓ 40% improvement in overall survival compared to historical controls
- ✓ Device is *easier to wear* than Novocure's Optune system (which generates \$600M+ annually)

### Expanding Oncology Applications

Beyond brain cancers, EMulate has demonstrated responses in over 20 different tumor types through veterinary canine studies, including:

- Complete responses in osteosarcoma, lymphomas, and carcinomas
- Partial responses in melanoma, fibrosarcoma, and mammary tumors
- Over 300 pets treated with naturally occurring cancers
- Responses observed as early as 14 days with therapy

# Mental Health

## Revolutionizing Psychiatric Treatment

EMulate's mental health program leverages the therapeutic potential of psychedelic compounds while reducing or eliminating many risks and drug-related challenges. The company has successfully emulated the effects of several breakthrough mental health medications.

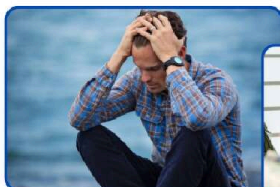
### The Drugs They Emulate:

- DOI (2,5-Dimethoxy-4-iodoamphetamine): A research psychedelic used as the "gold standard" in psychiatric studies
- Ketamine: FDA-approved for treatment-resistant depression
- MDMA: which is currently in Phase 3 trials for PTSD

- **Psilocybin:** Breakthrough therapy designation for depression
- **CBD and THC:** in active research for depression and anxiety

## Clinical Applications

- ✓ Treatment sessions can be *precisely controlled* and immediately stopped if distress occurs
- ✓ No DEA scheduling or controlled substance regulation
- ✓ Therapists can administer without psychiatrist supervision
- ✓ Patent protection provides market exclusivity unlike generic psychedelics



Treatment-resistant Depression



PTSD



Anxiety Disorders



ADHD

## Pain Management

### Breaking the Addiction Cycle

With the opioid crisis claiming over 100,000 lives annually in the US alone, EMulate's pain management platform offers hope for non-addictive, effective pain relief.

**65% pain reduction** in our Inflammatory Pain Model

**70 - 82% pain reduction** in our Neuropathic Pain Model

**70% pain reduction** in our Post-Surgical Pain Model

#### The Drugs We Emulate:

- **Fentanyl:** The most powerful opioid painkiller
- **CBD (Cannabidiol):** Natural anti-inflammatory compound
- **NSAIDs:** Including naproxen and indomethacin
- **Hydromorphone:** Another potent opioid

#### Inflammatory Pain Model:

- Fentanyl signal: **65% pain reduction** ( $p \leq 0.01$ )
- CBD signal: **65% pain reduction** ( $p \leq 0.01$ )
- Both outperformed indomethacin (standard anti-inflammatory)

#### Neuropathic Pain Model:

- Fentanyl signal: **82% pain reduction** ( $p \leq 0.01$ )
- CBD signal: **70% pain reduction** ( $p \leq 0.01$ )

- Naproxen signal: 79% pain reduction ( $p \leq 0.01$ )

#### Post-Surgical Pain Model:

- Fentanyl signal: 70% pain reduction ( $p = 0.01$ )
- Comparable to high-dose morphine without addiction risk

#### Human Case Studies:

Five military veterans with chronic pain conditions treated at a VA medical center:

- 38% average reduction in pain scores (Visual Analog Scale)
- Pain scores dropped from 8/10 to 5/10 average
- Effects observed within 15-30 minutes
- All patients had previously failed traditional pain management

EMulate's pain device combines signals from opioids, NSAIDs, and CBD to create multi-modal pain relief potentially without:

- Addiction
- Liver toxicity
- Gastrointestinal side effects
- Respiratory depression
- Drug interactions

## The Science Behind the Success

### How BioElectromagnetic Technology Works

EMulate's technology operates on fundamental principles of biophysics. Non-covalent molecular interactions, the same forces that allow drugs to produce a biological response, involve electromagnetic fields. With these fields, EMulate triggers the same biological cascades as physical drugs.

#### Key Advantages

- ✓ **No metabolism required:** Effects begin immediately
- ✓ **Localized:** No systemic side effects
- ✓ **Reversible:** Stop the device, stop the effect
- ✓ **No physical barriers:** Reaches areas drugs cannot (like crossing the blood-brain barrier)
- ✓ **Combination therapy:** Multiple drug signals can be delivered in a single treatment

### Safety Profile Across All Programs

With over 165 human patients treated across oncology trials, millions of hours of consumer exposure through Hapbee, and extensive animal testing:

- Zero serious adverse events attributable to u/RFE technology
- No thermal effects (non-heating)
- No ionizing radiation (low energy levels)
- No observed tissue damage or cellular toxicity

## A Platform with Unlimited Potential

This isn't just about one disease. EMulate's platform can theoretically recreate the effects of any non-covalent drug molecule.

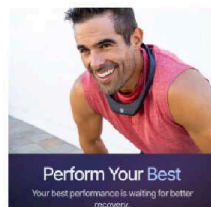
#### Current Programs







Our patented ultra-low radio frequency energy (ulRFE®) technology records and reproduces specific electromagnetic patterns associated with familiar compounds, then plays those patterns through lightweight wearables for consumers. The result is an on-demand, drug-free way to nudge sleep, focus, calm, or energy with instant on/off control drug-free.

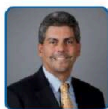


The Hapbee Neckband targets daytime performance (Focus, Energy, Calm, Relax) while the Hapbee Sleep Pad lives under your pillow for nighttime use (Deep Sleep, Wind Down, Wake Up). Both pair to an app with a growing library of “signal blends,” letting users choose how they want to feel throughout the day and night.



## The Team

Led by CEO Chris Rivera, who previously built and sold Hyperion Therapeutics for \$1.1 billion, EMulate's team combines decades of biotech success with cutting-edge scientific innovation. The board includes veterans from Microsoft, Bristol Myers Squibb, and multiple successful biotech ventures.



**Chris E. Rivera**  
President, CEO & Chairman

A seasoned biotechnology executive with over 30 years of industry experience, he has served as CEO, President, and Chairman of EMulate since early 2016, having joined its board in 2014. His impressive track record includes founding and leading Hyperion Therapeutics from 2006 to 2008, which was later acquired by Horizon Pharma for \$1.1 billion in 2015. He has held senior leadership positions as Senior Vice President and head of Commercial Operations at Tercica and Genzyme Therapeutics, and played instrumental roles in building the initial commercial infrastructures for both Cephalon and Centocor. Most recently, he founded Hapbee Technologies, Inc. in January 2019, serving as its Chairman and President until February 2022.



**Steven E. Pope**  
Sr. VP, General Counsel & Secretary

Steven has served as Senior Vice President, General Counsel, and Corporate Secretary of EMulate since September 2010, where he is responsible for overseeing all legal affairs of the Company, including contracts, securities, governance, intellectual property, and employment matters. With more than 35 years of experience, he has built an extensive career advising both early and late-stage companies across various aspects of corporate law and legal strategy.



**Kyle J. Kingma**  
CFO

Kyle serves as Principal Financial and Accounting Officer of EMulate and has led the company's finance department since 2010. In this role, he builds and manages the Company's finance team while overseeing the development, growth, and strategic direction of EMulate's wholly owned subsidiaries. With more than 15 years of experience in the finance sector, including over 11 years as the senior finance professional at EMulate, he has demonstrated expertise in leading teams and building systems to guide a company from startup stage through IPO readiness.



Xavier serves as Principal Scientist for EMulate Therapeutics, where he oversees pre-clinical



**Xavier A. Figueroa, PhD**  
SVP, Pre-Clinical Development

research and the application of EMulate Therapeutics technology across multiple disease areas. With more than 20 years of experience in basic and neurological clinical research, his expertise spans a diverse range of fields including Alzheimer's research, neuron biology, cancer research, bioengineering, and biophysics.

## Near-Term Revenue Catalysts

- **2027:** Projected commercial launch for pediatric brain cancer (DMG/DIPG)
- **\$100M+ market opportunity** within 3 years of launch (not guaranteed)
- **Multiple Phase 1 trials** starting in 2025 for pain and mental health
- **Ongoing License royalties** from Hapbee Technologies

## Massive Market Potential

- **Brain Cancer:** \$4.8B by 2030
- **Mental Health:** \$567B by 2032
- **Pain Management:** \$114B by 2032
- **Total addressable market exceeds \$700 billion**

## Proven Business Model

- **Revenues** through licensing deals with Teijin Pharma (Japan) and Sayre Therapeutics (India)
- **15 issued patents** protecting the technology
- **Hapbee** already commercializing consumer wearable products

## Capital Efficiency

Unlike traditional drug development requiring billions in investment:

- **New treatments** developed in less than 12 months
- **Under \$500,000** from concept to clinical readiness
- **No need to invent new molecules**, just record existing ones

## Help Us Transform Medicine

EMulate Therapeutics isn't just another biotech company, it's pioneering an entirely new category of medicine. With near-term commercialization, multiple shots on goal, and a technology platform that could transform how we treat disease, this is a rare opportunity to invest in a true medical breakthrough.

The company is actively raising capital to:

- **Complete FDA approval** and launch DMG/DIPG treatment
- **Advance multiple Phase 1 trials** in pain and mental health
- **Generate additional data** for other tumor types
- **Expand commercial partnerships** globally

## Be Part of the Future

Now, with commercial launch imminent following FDA approval, the company is positioned for explosive growth.

This is your chance to invest in a company that could fundamentally change medicine, making treatments safer, more accessible, and more effective for millions of patients worldwide.

## Expert Advisors



**Mike Butters**

- Served as a Director, Co-Founder, and Principal Inventor of Technology and Director Chair of the Technology Advisory
- Board of the Company since its inception in February 2002
- Pioneered the concept and design efforts for the development of the Company's platform technology, including production of the system for recording and optimizing the Company's molecular signals



- Director of the Company since 2016 and has advised the Company on cybersecurity and compliance issues since then



Charles E. McMerney

- Seasoned executive with over 24 years of multi-disciplined security, operations and core engineering at Microsoft.
- November 2019 to March 2022 was the VP and Chief Information Security Officer for Expedia Group



Donna Morgan Murray, PhD

- More than 30 years experience in the biotechnology and pharmaceutical industries
- Former Global head of Bristol Myers Squibb – Oncology Regulatory & Quality business