

## The Role played by each of **Three Overarching Themes** in

### **H: CantoVario—Melding Chaos Science, Acoustics, Signal Processing, and Music**

<b>Lifelong Learning</b>	Teaching myself everything I could about nonlinear dynamics and chaos, musical variation, acoustics, signal processing, and entrepreneurial thinking.
<b>Intrinsic Motivation</b>	Moving my musical variation projects out of the lab and into the wider world
<b>The Creative Process</b>	Exposure to different modes of doing, thinking, connecting, and expressing through engagement with: <ul style="list-style-type: none"> <li><b>Stimulation/impetus</b> Thinking about aliasing while driving to Olin for my Signals &amp; Systems course, then having a flash of insight that unlocked myriad algorithms for MIDI and audio variations (captured in the 2016 issued patents). Showing up at my June 2017 annual review where Olin's provost noticed I hadn't written much about CantoVario in my annual report. I had hit a wall yet felt close to a breakthrough. The breakthrough invention popped out the next morning and led to the mashup variations on cantovario.com, a 2017 provisional patent application, and a 2018 utility application (now pending).</li> <li><b>Preparation/Scaffolding</b> My mentors at the MIT VMS, participation in the NSF I-Corps SPARK Program at MIT, followed by the NSF I-Corps National Teams Program and Partnerships for Innovation—Technology Transfer (PFI-TT)</li> <li><b>Application</b> Audio web app (CantoVario Mashup), MIDI web app, Variations of individual MP3 songs</li> <li><b>Feedback</b> MIT VMS mentor meetings; monthly meetings with an MIT VMS IP expert; MIT VMS 2014 Demo Day, 2016 Snapshot Pitches, 2017 Entrepreneurial Edge, 2018 SPARK Program, 2019 FUSION Program; NSF National Team I-Corps and PFI-TT; Wellesley College, Berklee, Olin, independent musician-producers</li> <li><b>Revision</b> Continual development of algorithms in MIDI and audio formats, which in turn led to additional algorithms, but now in the other format. For example, I discovered that the audio algorithms devised as a result of the "flash of insight" mentioned above under "stimulation/impetus", in turn unlocked myriad algorithms, now applicable to MIDI variations of songs.</li> <li><b>Effective Communication</b> Communicating a new artistic experience: Moving the man and woman in the street with a contemporary take on musical variation, directly tapping the human soul to "sing" in ways it never knew it could</li> </ul>