



INITIATIVE TO IMAGE THE BIOFIELD

PROPOSAL FOR PROJECT PHASE 3



EXECUTIVE SUMMARY

Background: Initiative to Image the Biofield

The Subtle Energy Funders Collective has undertaken an initiative to create scientifically verifiable images of measurable and clinically-relevant energetic fields emanating from the human body, in order to evidence a new biofield-based understanding of disease, health, and wellness. Imaging the biofield is a high-leverage opportunity to drive public interest, bring attention and resources to the field, enable new methods for detection, diagnosis and treatment of disease, and foster a paradigm shift in health and wellness. Phases 1&2 of this Initiative undertook an extensive process of research and scoping by a global team of scientists and experts, and has resulted in this proposal for execution of Phase 3 of the Imaging the Biofield Initiative.

Phase 3 Pilot - Objectives and Deliverables

Phase 3 of the Imaging the Biofield Initiative will result in the following outcomes:

1. Develop Protocol for and Successfully Conduct Simultaneous Measures of 4 Human Biofields
2. Begin to Establish Baseline Measures for Human Biofields
3. Run Battery of Pilot Experiments to Test Hypothesized Behaviors and Functional Significance of Measured Biofields (apply various stimuli and conduct healings)
4. Create Initial 2D Static Visualizations and Dynamic Video Visualizations of Biofields around Upper Body
5. Prepare Scientific Report of Pilot Findings, Including Effect Sizes and Standardized Protocols for Creating Visualizations
6. Prepare Plan for Phase 4 – To Establish Statistical Significance of Pilot Work, Further Develop Visualizations

High-level Hypotheses to Pilot Test in Phase 3

1. There are scientifically measurable energy fields emanating from the human body.
2. Each person's energy fields are unique and dynamic; meditators and healers may exhibit exceptional differences.
3. Energy fields in and around the human body are affected by a person's environment, including proximity to another person.
4. Energy fields in and around the human body contain dynamic information related to health and wellbeing.
5. Different fields emanating from a person are coordinated with each other in a way that conveys diagnostic and regulatory information.
6. Biofields are correlated to key physiological measures.
7. Human biofields are impacted by mental and physical stressors, meditation and breathing, emotional states, certain sounds, and electromagnetic stimuli.
8. Energy fields of biofield healing practitioners change during their practice of biofield healing.
9. Energy fields in and around a healee's body change during a biofield healing.
10. Reduction in quantum noise (indicating an increase in order) occurs locally around the body in a way that is related to health and wellness, including homeostatic emotional states.

Biofields to be Measured

1. Ultraweak Biophoton Emissions
2. Local Entropy
3. Magnetic Fields
4. Long Wavelength Infrared

Subjects to be Tested

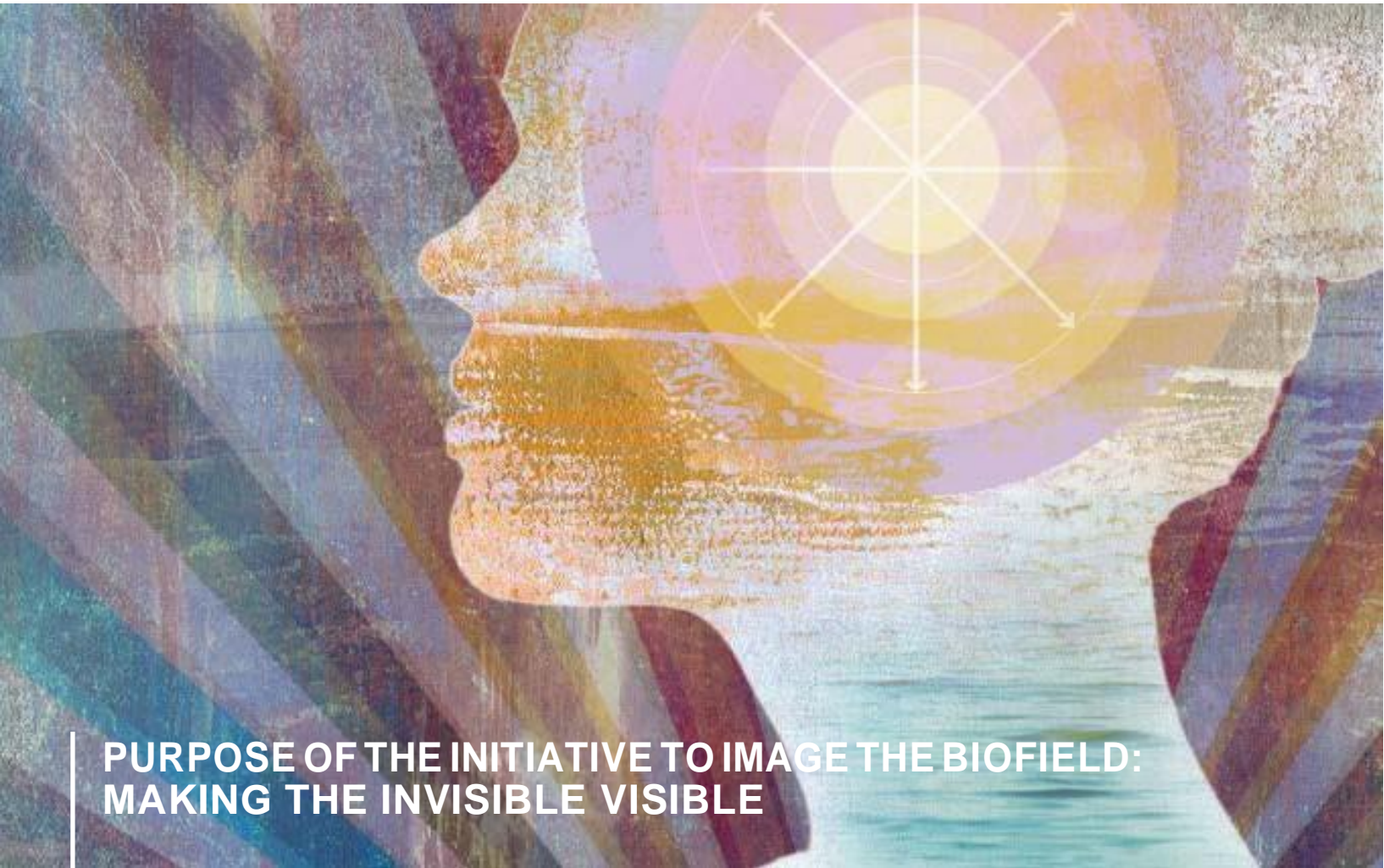
1. Healthy young adults age 20's – 7 pilot subjects
2. Healthy older adults age 70's – 7 pilot subjects
3. Healers - 3 pilot subjects
4. Healees – 6 pilot subjects (3 with Generalized Anxiety Disorder (GAD); 3 with chronic low back pain)

Visualizations of Biofields

Phase 3 will create a number of 2D static visualizations and 3D video visualizations, expected to be composites of the four measured fields, demonstrating dynamic variations over time in biofield behaviors observed during successful pilot experiments, as well as correlations between the different measures, all expected to be of the full upper body including head.

Project Sub-phases/Milestones

- 3.1 Pre-Phase (approx. 3 months)
- 3.2 Equipment Set-up and Calibration (approx. 3 months)
- 3.3 Pilot Tests/Experimentation (approx. 2.5 months)
- 3.4 Data Analysis (approx. 2 months, much in parallel with 3.3)
- 3.5 Creation of Visualizations (approx. 3 months, much in parallel with 3.4)
- 3.6 Reporting of Results and Proposal for Phase 4 (approx. 1 month, much in parallel with 3.5)



PURPOSE OF THE INITIATIVE TO IMAGE THE BIOFIELD: MAKING THE INVISIBLE VISIBLE

The Subtle Energy Funders Collective has undertaken an initiative to create scientifically verifiable images of measurable and clinically-relevant energetic fields emanating from the human body, in order to evidence a new biofield- based understanding of disease, health, and wellness.

Why is this important? Just as fMRI imagery helped scientifically establish the validity of meditation and mindfulness, measuring and creating images of human biofields can help the general public and scientific community better understand that there are biofields in and around the human body that likely reflect and affect health and wellness. Increasing the credibility and visibility of human biofields will drive public interest in biofield science and

healing, attracting more talent and resources to the field and accelerating further research.

Furthermore, creating images of the biofield that correlate to health and disease states should enable the development of new devices and methods for detection, early diagnosis, and treatment of diseases. All of these results pave the way for a paradigm shift in scientific thought and culture.

Background: Phases 1 & 2 Research and Scoping

Phases 1 and 2 of the Imaging the Biofield Initiative were undertaken to establish technical approach and feasibility, and develop a detailed plan towards achievement of the objective of creating scientifically veritable images of biofields. The project team undertook a process that included the following:

- Conducted Expert Working Group Meetings with 7 Global Subject Matter Experts
- Interviewed 20+ Additional Expert Scientists
- Performed a Semi-structured Literature Review and Analysis (>400 articles)
- Obtained Healer/Seer Input
- Conducted a Collaborative Design Process w/Funders and Science Team
- Performed Due diligence on Equipment Suppliers, Location and Teams
- Developed and Iterated Scope of Work and Plan
- Iterated Budgets
- Prepared This Phase 3 Proposal

In addition to producing this Phase 3 Proposal, the Phases 1 & 2 team is also preparing a narrative review for scientific publication, which will make available to the public a summary of the team's literature review, and its analysis of the state of the science regarding fields to measure, measuring equipment, and diagnostic/functional significance of biofield measures.

Phase 3 Pilot Project Objectives & Deliverables

Phase 3 of the Initiative to Image the Biofield is designed for the following deliverables:

1. Develop Protocol for and Successfully Conduct Simultaneous Measures of 4 Human Biofields: Successfully set up an array of biofield measuring equipment to simultaneously measure four different energy fields emanating from the human body (see "Biofields to Be Measured" below), focusing on the head and upper body region.
2. Begin to Establish Baseline Measures for Human Biofields: With the array of equipment, measure the biofields of healthy adults to establish baseline biofield emanations.
3. Run Battery of Pilot Experiments to Test Hypothesized Behaviors and Functional Significance of Measured Biofields: Pilot test a series of stimulus experiments, and biofield healings, with the biofield measuring equipment designed to begin to validate hypotheses about the existence, behavior and significance of human biofields (see "Key Hypotheses" and "Phase 3 Pilot Experiments" below).
4. Create Initial 2D Static Visualizations and Dynamic Video Visualizations of Biofields around Upper Body: Convert measurement data into a number of 2D static visualizations and 3D video visualizations, expected to be composites of the four measured fields, demonstrating dynamic variations over time in biofield behaviors observed during stimulus experiments, as well as correlations between the different measures. (see "Visualizations of Biofields" below).
5. Prepare Scientific Report of Pilot Findings, Including Effect Sizes and Standardized Protocols for Creating Visualizations: Create report from this pilot phase on consistency and variability in the different types of biofields between and within humans, and as they relate to experimental hypotheses, and protocols established.
6. Deliver a Proposal for Phase 4: Recommend follow-up work to validate statistical significance of promising results from Phase 3, to further advance visualizations of biofields, and to explore other promising hypotheses.

High-level Hypotheses for Phase 3

Phase 3 will involve a series of pilot tests designed to explore and evidence the following high-level hypotheses about human biofields and their significance, developed during Phases 1 & 2:

1. There are scientifically measurable energy fields emanating from the human body.
2. Each person's energy fields are unique and dynamic; meditators and healers may exhibit exceptional biofield activity.
3. Energy fields in and around the human body are affected by a person's environment, including proximity to another person.
4. Energy fields in and around the human body contain dynamic information related to health and wellbeing.
5. Different fields emanating from the human body are coordinated with each other in a way that conveys diagnostic and regulatory information.
6. Biofields are correlated to key physiological measures.
7. Human biofields are impacted by mental and physical stressors, meditation and breathing, emotional states, certain sounds, and electromagnetic stimuli.
8. Energy fields of biofield healing practitioners change during their practice of biofield healing.
9. Energy fields in and around a healee's body change during a biofield healing.
10. Reduction in quantum noise (indicating an increase in order) occurs locally around the body in a way that is related to health and wellness, including to homeostatic emotional states.

Biofields to be Measured & Visualized

Based on project Phase 1 & 2 activities, including literature review, expert interviews, and working group meetings, the following four fields were selected as the most promising and/or feasible fields to measure and represent visually in Phase 3:

1. **Ultraweak Biophoton Emissions** - Biophoton intensity measurements will be taken over the entire upper body with a CCD camera, and more detailed biofield emission pattern measurements will be taken from the front and back of each hand with photomultiplier tubes (PMTs).
2. **Local Entropy** - High-sensor density random number generator (RNG) array will measure the head and full torso to potentially identify quantum entropy around local regions of the body.
3. **Magnetic fields** - (extremely low frequency) TwinLeaf Labs 9-sensor magnetometer array and data platform will measure dynamic magnetic fields emanating from the cardiac region.
4. **Long Wavelength Infrared** - Measurements of the whole body during all experiments.

All biofield measures will be taken on each human subject concurrently, except CCD camera images of biophotons, which will be done separately. Concurrent measurements will enable the identification and visualization of correlations between various energy fields, particularly in relation to experimental interventions. (For more information see "Appendix B: Additional Background of Fields to be Measured.")

To arrive at this selection of energy fields, a number of factors were evaluated: First, the team considered the amount and quality of scientific evidence found related to each potential energetic field measurement, as well as to each field's potential correlation to health and disease. Based on this evidence, the candidates with the strongest prior evidence were magnetic fields, biophotons, infrared, and extremely low frequency capacitive fields (the last of which was ultimately not included).

Second, the team endeavored to include a range of biofield measures spanning from the gross to the subtle. On the subtle end of the scale, the most promising research is in random number generators measuring quantum entropy, and in extended electrodynamics (measuring EM potentials and scalar waves).

The third consideration was feasibility. All four proposed biofield measures included in Phase 3 can be readily measured in a laboratory environment with equipment that is readily available or not too costly to construct. Equipment to measure EM potentials and scalar waves was not immediately feasible, so this measure is not included in Phase 3 at this time.

List of Subjects to be Tested in Phase 3

The following human subjects will be included in pilot tests and experimentation for Phase 3:

1. Healthy young adults age 20's – 7 pilot subjects
2. Healthy older adults age 70's – 7 pilot subjects
3. Healers - 3 pilot subjects
4. Healees – 6 pilot subjects (3 with GAD; 3 with chronic low back pain)

Physiological Measures to be Collected and Correlated

In addition to the four biofields to be measured and visualized, a selection of key physiological measures will be taken concurrently on all subjects, and then correlated with biofield measures. This will be important to understanding how biofields are correlated to meaningful physiological and mental/emotional states, and also will be useful in helping build an incremental bridge for the scientific community from well-accepted physiological measures to these new biofield-based phenomena. Physiological measures to be taken during pilot testing include:

1. Brainwaves – Electroencephalogram (EEG) placed on head
2. Cardiac electric activity – Electrocardiogram (ECG) placed on chest
3. Sweat gland permeability – Electrodermal Activity (EDA) placed on the wrist
4. Respiration – Biosemi respiration band(s) will be placed on the abdomen

Phase 3 Pilot Experiments

The following pilot tests have been included in Phase 3 to explore the initial hypotheses about significance and behavior of human biofields, and to create the basis for meaningful visualizations of biofields. All subjects will be put through a protocol that includes tests 1-8 below; 3 healers and 6 healees will be put through tests 9-11.

<i>Test/Experiment</i>	<i>Hypothesis Tested</i>
1. Baseline measurements of all subjects	There are scientifically measurable energy fields emanating from the human body. Each person has unique dynamic energy fields.
2. Baseline measurements of ~20 year old adults versus ~70 year old adults	Each person has unique, dynamic energy fields in and around the body, and these biofields have differences associated with age and physical health.
3. Stressors – cognitive stressor (n-back test), social stressor, physical stressor (cold pressure or auditory stimulation)	Energy fields in and around the human body contain dynamic information related to health and wellbeing, including mental and physical stress. Human biofields are impacted by mental and physical stressors, relaxation, and affective (emotional) states.
4. Affective-based evoked potentials (evoke emotions, e.g. love, disgust, etc.)	Energy fields in and around the human body contain dynamic information related to health and wellbeing, including emotional states.
5. Breathing exercise (relaxation)	Human biofields are impacted by relaxation activity.
6. Meditation	Human biofields are impacted by relaxation and meditation activity, and meditators may exhibit exceptional biofield activity.

<i>Test/Experiment (cont.)</i>	<i>Hypothesis Tested</i>
7. Sounds(a)believedtostimulatehealing and (b) evoking a negative response	Energy fields in and around the human body are affected by a person’s environment.
8. Electromagnetic stimulus, e.g. WiFi signal	Energy fields in and around the human body are affected by a person’s environment.
9. Proximate physical presence of another person (who is not a healer), e.g. a bonded loved one	Energy fields in and around the human body are affected by a person’s environment, including proximity to another person.
10. Measures of healer before, during and after he/she conducts a biofield healing	Energy fields of biofield healing practitioners change during their practice of biofield healing.
11. Measures of healee before, during and after receiving a biofield healing	Energy fields in and around a person’s body can change during a biofield therapy session from a biofield healer.

Data Collection and Analysis

Data to be collected:

- All included measures of biofields
- Simultaneous physiological measures
- Questionnaires to collect demographics, health, relevant states and traits (such as personality (e.g. Minnesota Multiphasic Personality Inventory, Myers-Briggs, Big Five Personality Test), daily stress (e.g. perceived stress scale), and traditional Chinese medicine constitution types). These data are collected in order to investigate associations between these variables and biofields.
- IONS Discovery Lab questionnaire regarding sense of interconnectedness, extended human capacities, and well-being.
- Reports on mental state experienced during the different experimental intervals through post-ex- perimental qualitative interviews.
- Reported observations from a seer in the room with standardized qualitative protocol post-experi- ments, based on questionnaire used in IONS seer study.

APPENDICES

