The Great UQ Quiz

1. What is the category?
   - Normal Distribution
   - Uniform Distribution
   - Exponential Distribution
   - Beta Distribution
   - Monte Carlo Sampling
   - Latin Hypercube Sampling
   - Quasi-Monte Carlo Sampling
   - Importance Sampling
   - Global Sensitivity Analysis
   - Sobol' Indices
   - Morris Method
   - Variance-Based Sensitivity Analysis
   - Bayesian Calibration
   - Maximum Likelihood Estimation
   - Sequential Monte Carlo
   - Markov Chain Monte Carlo

2. Pair each paper title with the author:
   1. Hark! Witness the noble pursuit of Uncertainty Quantification in the realm of Inclusion Boundaries, woven within the rich tapestry of X-Ray Tomography's contextual domain.
      1. William Shakespeare
   2. Lo and behold! Unveiled is the artistry of Direct Regularized Reconstruction, a mystical incantation to unravel the enigma that lies within the three-dimensional Calderón problem.
      2. Virginia Woolf
   3. Ah, behold the exquisite marvel! A Bayesian voyage unfurls, delicately venturing into the realm of CT reconstruction. Yet, this endeavor, bedecked in uncertainty, dares to embrace the capricious charms of uncertain geometry.
      3. Herman Melville
   4. Amidst the ethereal tapestry, we wander through the realms of Localization, where moving sources dance in harmonious elegance. Here, the ethereal whispers of uniqueness and stability intertwine, while the graceful tendrils of Bayesian inference gracefully sway, illuminating the path of understanding.
      4. Oscar Wilde
3. If the following theorems were to switch careers to the movie industry, which TV show would be its equivalent?
   1. The Open Mapping Theorem
   2. Brouwer's Fixed-Point Theorem
   3. Bayes' Theorem
   4. Lions-Lax-Milgram Theorem
   A. Suits
   B. Sherlock
   C. The Big Bang Theory
   D. The Twilight Zone

4. List the following eight fields in chronological order based on how much UQ is used within the fields: (This is an approximation, but not up for debate)
   1. Engineering
   2. Computational Science
   3. Climate and Environmental Sciences
   4. Finance and Risk Management
   5. Energy
   6. Healthcare and Medicine
   7. Manufacturing and Quality Control
   8. Geosciences

5. Which algorithm corresponds to which image?

   1. MALA  2. ULA  3. NUTS  4. PMCMC
6. Can you solve the riddle?
At a university of knowledge and skill, Creativity and precision intertwine, fulfilling their will. In galleries adorned with masterpieces rare, Brushstrokes capture stories, emotions to bear. Canvas and clay, forms molded by hand, Artistry expressed, a visual wonderland. But wait, there’s more to this puzzling brew, For in this realm, a treat is known to woo. Layers of sweetness, frosting divine, A delicacy to savor, a cake so fine. Now, shift the scene to a workshop’s domain, Where potters shape clay, with skill and gain. Crafting vessels, bowls, and artistic wares, Technical precision, craftsmanship that declares.

7. What are the topics of the following poems?

1. With iterations, they dance in stride, Seeking solutions far and wide. From subspace’s humble starting breath, They march toward convergence, undeterred by depth.
2. From Bayes’ theorem, the melody begins, Priors harmonize, as new evidence rescinds, Beliefs revised through likelihood’s grace, Uncertainty measured in every trace.
3. The aroma wafts, an enticing spell, Whisking us away, memories to compel. Childhood moments, warm and sweet, Cookies shared, with loved ones we meet.
4. Through time and space, the data we trace, Reconstruction’s symphony, a work of grace, From raw projections, images rise, A three-dimensional wonder, to mesmerize.

8. Whose Hat Is It Anyway?