The Oxford Dictionary of the English Language chose “post-truth” as its word of the year for 2016. In a post-truth, post-fact world, views that appeal to emotions and personal beliefs are more influential than objective evidence-based facts.

What does this mean for public trust in the evidence produced by science, medicine, and public health?

– Dr. Margaret Chan, Director General of the World Health Organization, 2006-2017
Background

In 1953, Francis Crick and James Watson, building on the work of Rosalind Franklin, described the double helical structure of a DNA molecule, a finding that gave rise to modern molecular biology and deeply influenced art and culture. In 1978, lead, a substance known to have adverse health effects since the second century BCE, was banned in the United States as an additive to household paint. In 2006, Al Gore, hoping to alert the public to the planetary emergency of global warming, released *An Inconvenient Truth*, a $50 million-grossing book and documentary. These issues – genetics, chemical exposure, and climate change – affect human health in important ways, but they are complex to understand and communicate.

Since the monumental discovery of the double helix, public and private institutions have sought to advance and capitalize on our growing understanding of genomics. Now, an individual can obtain information about their ancestry, health, and traits by simply spitting in a tube and mailing it away. Yet, many health care providers lack resources to provide genetic-based health services and education to their patients, as approximately 50% of the public reports little or no understanding of the term “human genome.”

In parallel, there are 180,000 chemicals produced or imported into the U.S. each year. Only a handful of those have been studied, but there is increasing evidence that chemicals in daily-use products such as baby bottles, baby pajamas, and car seats may be harmful to children’s growth and development. The companies making, marketing, and selling products have much at stake, as does the public. Many individuals remain unsure: what information and whom do I trust?

In addition, from the 1820’s to the present, despite scientific evidence, the world continues to debate the impacts of climate change without taking action. In 2015, for the first time, all members of the United Nations convened at the Framework Convention on Climate Change to strengthen the global response. Yet, the influence of politics and an emphasis on economic factors have delayed progress, especially in the United States.

Advances in research around genomics, chemical exposures, and global climate change have far-reaching effects on the health and wellbeing of the planet and its people. Communicating this information in an effective and meaningful manner, however, remains a challenge. Cultural differences, political motivations, and new media platforms all contribute to the complexity surrounding already complex issues affecting human health. The question remains: how can important research findings be communicated to people of different ages, different cultures, and different levels of education in order for them to make decisions and take action?

The Challenge

Communicating science to people across ages, cultures, and geographies.

Considerations

In this workshop, you will participate in team-building activities and work with international experts and UB faculty to develop social, technological, business, educational, and policy innovations to communicate complex health information to people across ages, cultures, and geographies. As you work, continue to ask and answer the following questions:
- What are some of the complex health issues of today?
- How is complex health information currently communicated?
- What differentiates effective communication from ineffective communication?
- How do we communicate complex and uncertain information in clear, accurate, sensitive, ethical, and helpful ways?
- How do we communicate content so that it is culturally relevant – messaging that communicates to followers of science and religion, to left-leaning and right-leaning political minds, to people across geographic and cultural borders?
- What tools can be most effective; what new tools can be developed?
- Whose responsibility is it for communicating vital information?

In your work, we encourage you to focus on how one complex health issue affects a particular population.

**Educational Goals**

The Global Innovation Challenge has three major educational goals (and several embedded learning objectives).

**Goal 1** is to explore the challenges of communicating complex health information to people across ages, cultures, and geographies. You will get snapshots of complex health issues, and we will help deepen your understanding of the social, technological, economic, environmental, educational, and institutional challenges to communicating these issues to people across ages, cultures, and geographies.

**Goal 2** is to learn how to identify, test, and develop ideas as part of an interdisciplinary team. We will discuss disciplinary differences as well as differences in problem-solving personalities, gaining a deeper understanding of your own preferences and tendencies and how to more effectively work as part of a team. You will also gain experience in collective decision making that leads to a cohesive proposal.

**Goal 3** is to practice and develop skills of effectively presenting complex challenges and solutions. You will receive coaching on how to effectively deliver a “pitch” to a panel of experts. This will include feedback on both verbal and visual techniques.

Ultimately, the organizers hope you find the week challenging yet inspirational and fun, with lots of learning in a short time.

**Contributors**

The Global Innovation Challenge is sponsored by the University at Buffalo Community of Excellence in Global Health Equity. Faculty and staff affiliated with the Community for Global Health Equity have organized the event and will provide stewardship throughout the week. UB faculty from various disciplines will join international partners to provide comprehensive feedback throughout the week. The course will be integrated both “horizontally” (across disciplines) and “vertically” (across year levels). Nevertheless, graduate students are expected to take on team leadership roles, stewarding equal participation of team members and managing the progress of team’s work. Graduate students are expected to seek leadership guidance directly from the organizers.

**The Process**

The week will begin with short presentations from guests, coupled with small- and whole-group discussions. As major themes emerge, teams will surface
through a combined approach of self-organizing and facilitator organizing. As the teamwork progresses, each group will be encouraged to focus their proposed strategies toward a manageable scale—a project that the team can carry out over the next two semesters. Teams will be coached on how to present their ideas, and will get practice and feedback prior to the “pitch.” Throughout the week, external partners and UB faculty and staff will serve as partners, mentors, provocateurs, and, ultimately, judges.

### Judging Criteria

Judges will use the following criteria:

1. How well did the team communicate its understanding of the challenges that smallholder farmers face, and the larger challenges to meeting the world’s food needs?
2. How clear and impactful was the team’s verbal presentation?
3. How clear and impactful was the team’s visual presentation?
4. How well developed was the proposal, how likely is it to succeed, and to what degree are the elements of the proposal mutually reinforcing?
5. To what extent did the team align the proposal with a specific healthcare situation, population, and strategy?

### Grading

If you registered for the paid workshop, no grade will be assigned. If you enrolled in END418/518, you will be graded. To receive a grade of “A” you must arrive prepared and on time to each session, and work continuously and thoughtfully throughout the day; you are expected to engage in critical dialogue with experts and peers, proactively seek and respond to criticism, and meet incremental deadlines. For each session missed, your grade will be reduced by one full letter grade. For each criterion not met, your grade will be reduced by one full letter grade. There is no option to work individually; everyone will be part of a team. If you are absent or late multiple times, or are unwilling to participate as a team member, it is recommended that you consider registering for a different course or a future session (or a grade of “F” will be assigned). The instructor reserves the right to de-register students who do not meet the aforementioned criteria. Due to the course format, requests for incompletes will not be considered.

### Attendance

Attendance is mandatory. If you are absent due to illness, family emergency, etc., please contact the organizers via e-mail or phone as soon as possible. If you are absent from all or part of a session, you must gather all information, handouts, and discussion notes from your colleagues. Given the brevity of the course, if you are not able to attend multiple sessions, due to any circumstances, we recommend that you withdraw from this year’s challenge and rejoin us next year.

### Resources

A set of initial resources for the course has been assembled. In addition, you are encouraged to add to these resources. Students with any documented needs or preferential requests are advised to speak with the professor as well as the appropriate campus agency, e.g., Office of Accessibility Resources (http://www.buffalo.edu/accessibility/), as soon as possible in order to provide appropriate accommodations or modifications to the learning and assessment techniques of the course.
**Integrity**

The Global Innovation Challenge provides a collaborative learning environment, including a large reliance on one another for idea generation and information sharing. Likewise, teams will utilize the ideas and feedback of other teams, invited guests, and other resources. It is important to keep track of the sources and evolution of the team’s work, and, for the final “pitch,” you are expected to cite all borrowed images and concepts. All other university integrity policies also apply: [http://catalog.buffalo.edu/policies/course/integrity.html](http://catalog.buffalo.edu/policies/course/integrity.html).

Equally important, while you may think of yourself only as a student, we believe you are here both to learn and to teach; you are capable of teaching—of teaching yourself and of teaching others. Reciprocally, we are here not only to teach but also to learn. Please aim for openness and humility in the personal, cultural, and scholarly expertise that your colleagues and invited guests bring. Some course content may be offensive, personal, and/or emotionally disturbing to some individuals, while the same content may seem innocuous or humorous to others. Please be sensitive to this. For the week to operate effectively, it is essential that each student, the instructor, and invited guests feel comfortable in discussing any issue that arises. Please listen intently to opinions divergent from your own; and contribute to the dialogue by exploring the views of others in a constructive manner. If you feel you are unable to participate in this way, please consider taking another course.

Lastly, strive toward clarity in speaking and listening, while you strive toward integrity—honesty with your instructors, honesty with your colleagues, and honesty with yourself. Please be generous in sharing your concerns, satisfactions, and recommendations as we move through the week.

**APPENDIX 1: SUPPLIES LIST**

Throughout the week, plan on the following:

- **Drawing and notetaking supplies:** While some supplies will be on hand, we recommend that you bring pens, pencils, markers, and other media you prefer to use while finding and developing ideas, along with paper, sketchbooks, and/or notebooks.

- **Computing:** A laptop with internet access is recommended for all sessions. While not every student is required to have it, software for writing and graphic design is needed for each team (e.g., Microsoft Word, PowerPoint, Photoshop, Illustrator, etc.).

- **Food:** Breakfast and lunch will be provided.

**APPENDIX 2: TEAMWORK SURVIVAL GUIDE**

The Global Innovation Challenge is an intense, engaged, collaborative, thinking-learning-doing environment. It simulates the intense, interdisciplinary setting of many modern work environments that tackle complex, ill-defined problems. Problem definition and solution finding are often cyclical and iterative, not linear. Likewise, the methods used are often diverse, and the process is often not fully planned at the outset, but becomes clearer over time (what some call “emergent design”). Flexibility, in both working and thinking, is essential, particularly as problems and solutions come from multiple domains and multiple scales. Often times, individual success depends on team success and vice versa.

Good teamwork comes from an awareness of oneself, as well as an awareness of the dynamics of the group. Differences in gender and sexuality, race and ethnicity, personality type, life experiences, and a host of other factors influence discussions and, therefore, the progress of the team. Please be mindful and respectful of these differences. Enrollment in the course implies consent with the guidelines below, which are adaptations from and additions to Susskind and Cruikshank’s “Suggested Ground Rules” in *Breaking Robert’s Rules* (Oxford: Oxford University Press, 2006).
1. Each person agrees to fully participate, through active listening and speaking, in all studio discussions.
2. Only one person shall speak at a time. Everyone else shall listen keenly, not “wait to talk.”
3. Each person is responsible for making sure she/he understands what has been said. Each person shall ask questions of clarification when necessary.
4. Each person shall be as succinct and direct as possible, giving time for others to speak.
5. Each person shall express her/his own views, not speak for others. (E.g., do not preface your comments with “we think”; instead consider saying: “I think.”)
6. Each person shall make her/his best effort to stay on topic and follow the trajectory of the conversation.
7. Each person is responsible for stating when she/he disagrees and, then, provide an alternative.
8. Each person shall make every effort to be open-minded and to evaluate others’ comments based on the merits of what is being said, not based on personality or biases.
9. Each person shall make clear, when speaking and when listening, the difference between factual statements and statements of opinion.
10. Each person shall seek to identify and clarify multiple sides of a debate (issue), and, simultaneously, seek to provide a common ground (resolution).
11. No one shall ask individuals in the Global Innovation Challenge about their religion, sexuality, ethnicity, other personal information, etc., and at no time will anyone make derogatory or inflammatory comments about individuals or groups based on religion, sexuality, and ethnicity.
12. No one shall make personal attacks. The instructor reserves the right to dismiss anyone from the Global Innovation Challenge and pull anyone aside who does not abide by this or other policies.
APPENDIX 3: SCHEDULE

Day One: Introduction and Clarification
   Learning about the challenge
   Organizing our questions
   Framing the problem

Day Two: Selection and Ideation
   Selecting a concept
   Forming and developing your team
   Ideating (brainstorming)
   Framing the problem

Day Three: Development and Coaching
   Developing your ideas
   Refining your ideas

Day Four: Coaching and Refinement
   Refining your goal, objectives, and activities
   Developing your pitch

Day Five: Pitch and Jury
   Refining your pitch
   Delivering your pitch
   Jury deliberations