

# **Eleventh International Conference on Ethics in Biology, Engineering and Medicine**

**April 29<sup>th</sup> & 30<sup>th</sup>, 2023  
Seattle, WA**



**Preliminary Program**

**University of Washington, Seattle, WA**

## **Welcome from the Conference Chair**

I am pleased to welcome you to the 11th International Conference on Ethics in Biology, Engineering & Medicine. Our goal is to bring together biomedical engineers, scientists, clinicians, dentists, philosophers, lawyers, students, and representatives from industry to discuss the ethical issues that face us as we make new advances in biology, engineering, dentistry and medicine, and as we develop new implants, devices, and drugs to improve medical and dental treatments and the quality of life of our patients. The papers to be presented represent a broad spectrum of topics reflecting the exciting but sometimes controversial nature of many of the new advances in biology, engineering, dentistry, and medicine. Other than Keynote Presentations, all talks are fifteen minutes long. I recommend the speakers limit their lectures to twelve minutes and leave three minutes for questions and answers.

This conference is sponsored by the University of Washington. It is co-sponsored or endorsed by the International Federation of Medical and Biological Engineering (IFMBE), The American College of Dentists, the International Union for Physical and Engineering Sciences in Medicine (IUPESM), the American Institute for Medical and Biological Engineering (AIMBE), Sigma Xi and several other societies, institutions, and companies.

Many people contributed to the success of this conference. I would like to thank the Keynote speakers, invited lecturers, the authors, the session moderators, and the staff. I am sure that you shall find this conference intellectually stimulating and a highly enjoyable experience.

Welcome to Seattle, Washington.

## **Subrata Saha**

Subrata Saha, PhD, Fellow of ACD (Honorary), AIMBE, ASME, BMES, NYAM, and Sigma Xi  
Conference Chair  
Department of Restorative Dentistry and Department of Oral and Maxillofacial Surgery  
School of Dentistry, University of Washington,  
Seattle, WA

## **Educational Objectives**

At the conclusion of this conference, participants will be aware of:

- Ethical Issues in Dentistry
- Ethical guidelines for developing new medical devices
- Ethical issues related to Artificial Intelligence
- Conflicts of interest and regulatory issues for biomedical research.
- Research Integrity and Responsible Conduct of Research.

## **Target Audience**

Engineers, Scientists, Physicians, Dentists, Lawyers, and graduate, medical, dental and undergraduate students.

## **Website**

The program information can be obtained from

<https://dental.washington.edu/restorative-dentistry/11th-international-conference-on-ethics/>

## **Registration**

Online registration and program information are available from

<https://washington.irisregistration.com/Form/5398>

## **Meeting site**

All sessions will be held at the Hogness Auditorium, Room A420, Health Science Center, University of Washington, 1959 NE Pacific Street, Seattle, Washington, 98105

## **CDE Credit**

Continuing Dental Education credits will be available. The forms will be distributed during registration. Please contact the CDE department for more information:

Continuing Dental Education, University of Washington

Mail: Box 357137, Seattle, WA 98195-7137

Phone: (206) 543-5448, Toll Free: (866) 791-1278

Web: [www.uwcde.com](http://www.uwcde.com), Email: [dentalce@uw.edu](mailto:dentalce@uw.edu)

**Hotel Information**

A block of rooms has been reserved at the following hotel, at a special rate of \$ 159.00 plus tax, for single or double occupancy.

**Silver Cloud Hotel**

5036 25<sup>th</sup> Ave. NE

Seattle, Washington 98105

(located near the University of Washington campus)

Website: <https://www.silvercloud.com/university/>

Individuals should call the hotel directly at 1-800-205-6940 to make reservations. To receive the special rate, please mention the group name: "11<sup>th</sup> International Conference on Ethics in Biology, Engineering, and Medicine", at the time of making a reservation. Please note that the special rate is valid no later than **April 7, 2023**.

## Agenda

Saturday, April 29<sup>th</sup>, 2023

TIME	
8:00 AM-4:00 PM	<b>REGISTRATION</b>
8:30 AM	<b>PLENARY SESSION I:</b> Hogness Auditorium A420 <b>WELCOMING REMARKS</b> Andre V. Ritter, DDS, MS, MBA, PhD Professor and Dean, School of Dentistry, University of Washington, Seattle, WA  Maria Strojnik, PhD President-Elect, Sigma Xi, The Scientific Research Honors Society Optical Research Institute, Leon, Mexico  <b>ANNOUNCEMENT</b> Subrata Saha, PhD Conference Chair, University of Washington, Seattle, WA
8:45 AM	<b>Symposium: Ethical Issues in Dentistry</b>  <b>WELCOMING REMARKS</b> Daniel C.N. Chan, DMD, MS Chair & Professor, Dept. of Restorative Dentistry, School of Dentistry, University of Washington, Seattle, WA  Susan Adams, DDS Chair, Washington Section of the ACD
9:00 AM	<b>Keynote I</b> <b>The Ethical Responsibilities of Oral Health Professionals in Providing Care for Those with Mental Health and Substance Use Disorders</b> Rena N. D'Souza, DDS, MS, PhD Director, National Institute of Dental and Craniofacial Research/NIH
9:40 AM	<b>Keynote II</b> <b>Understanding Professional Altruism</b> David Chambers, EdM, MBA, PhD School of Dentistry, University of the Pacific, San Francisco, CA
10:20 AM	<b>COFFEE BREAK</b>
10:50 AM	<b>Session I: Ethical Issues in Dentistry</b> Chair: Lance Rucker, DDS, FACD University of British Columbia, Vancouver, BC, Canada  Co-Chair: TBA

- 10:50 AM **The Double-Edged Sword of Increased Protective Equipment Usage Post COVID-19: Balancing Health and Environmental Concerns**  
Megha Rao, MDS and Ram Vaderhobli, DDS, MS  
School of Dentistry, University of California at San Francisco, San Francisco, CA
- 11:05 AM **Artificial Intelligence in the Current Dental Profession: Ethical Issues**  
Ajay Kashi, DDS, MS, PhD,  
Seattle, WA,  
Subrata Saha, PhD,  
School of Dentistry, University of Washington, Seattle, WA
- 11:20 AM **Emerging Oral Health Research: An Appeal for Compassionate Inquiry**  
Aubrey R Hopkins, DMD, ABGD,  
Veterans Affairs, Tallahassee, FL
- 11:35 AM **3D Printing of Bones and Nanotechnology: Ethical and Anticipated Ethical Issues**  
Richard L. Wilson, PhD  
Towson University, Towson, MD
- 11:50 AM **Toward a Common Understanding of Truth for the Medical Professional**  
David Dinhofer, MD  
Cooperman-St. Barnabas Medical Center, Livingston, NJ
- 12:05 PM **Bionanotechnology and CRISPR: An Ethical and Anticipatory Ethical Analysis**  
Richard L. Wilson, Ph.D.  
Towson University, Towson, MD
- 12:20 – 1:30 PM **LUNCH**
- 1:30 PM **Session II Ethics Education**  
Chair: Shankar M. Krishnan, PhD., Vice President, IUPESM,  
Wentworth Institute of Technology, Boston, MA  
  
Co-Chair: Baishali Kanjilal, Ph.D.,  
BI Cure LLC, CA, and University of California at Riverside, Riverside, CA
- 1:30 PM **Ethics and Professionalism in Dental Education**  
Daniel Haas, DDS. PhD, FRCD©,  
School of Dentistry, University of Toronto, Toronto, Canada
- 1:45 PM **Investigating the Convergence of Ethical Principles and DEI Curriculum for Predoctoral Students**  
Kerry Streiff, DDS,  
School of Dentistry, University of Washington, Seattle, WA
- 2:00 PM **Ethics in Professional Academics**  
Jan O’Dell, DDS, MFS, JD  
University of Mississippi Medical Center, Jackson, MS
- 2:15 PM **Can Ethics Be Taught? Can it be Learned?**  
Anthony J. McGoron, PhD  
Florida International University, Miami, FL
- 2:30 PM **Research Ethics Training for High School Students and Educators**  
Edward Butch, MS  
CITI Program, Miami, FL
- 2:45 PM **Do No Harm**  
Maria Strojnik, PhD  
President-Elect, Sigma Xi, The Scientific Research Honors Society

Optical Research Institute, Leon, Mexico

3:00 – 3:30 PM	<b>COFFEE BREAK</b>
3:30 PM	<b>Panel Discussion: Ethical Imperatives for Diversity, Equity, and Inclusion</b> Moderator: Shankar M. Krishnan, Ph.D., Vice President, IUPESM, Wentworth Institute of Technology, Boston, MA Panel Members: Richard L. Watkins, PhD, Sigma Xi, The Scientific Research Honor Society, Research Triangle Park, NC Other Members TBA
4:30 PM	<b>Keynote III</b> <b>Prenatal Absorption of Ionizing Radiation from Medical X-Rays Can Cause Genetic and Mental Development Defects at Doses Below 10 Rads (100 mGy) in Disagreement with Internationally Accepted Guidelines: Evidence from Biophysics, Molecular Biology, and Epidemiology</b> Thomas Budinger, MD, PhD Lawrence Livermore Laboratory and University of California, Berkeley, CA
5:10 PM	<b>Session III Bioethics I</b> Chair: Sara Goering, Ph.D. University of Washington, Seattle, WA  Co-Chair: Lawrence Gettleman, DMD, University of Louisville, Louisville, KY
5:10 PM	<b>Ethical Challenges in Health Care Leadership: Bedside to Boardroom</b> R. Shane Barton, MD, FAOA LSU Health Science Center, Shreveport, LA
5:25 PM	<b>Global Citizen Safety &amp; Security in the Digital Divide: Bioethics of Inclusion</b> Luis Kun, Ph.D. and Julia Kun, BS President, IEEE Society on Social Implications of Technology (SSIT) National Defense University, Washington, D.C.
5:40 PM	<b>Research under China's Personal Information Protection Law</b> Xiaojie Li, PhD and Ruishuang Liu, JD Peking University Health Science Center, Beijing, China
5:55 PM	<b>Preferences of Older Americans for Length of Life after a Diagnosis of Dementia</b> Dena S. Davis, J.D., Ph.D. and Lauren Dennelly Lehigh University, Bethlehem, PA
7 PM	<b>Banquet</b> The banquet will take place on Saturday at 7:00 PM, April 29 <sup>th</sup> , 2023 at Mamma Melina, 5101 25 <sup>th</sup> Ave. NE, WA 98105, Tel: (206) 632-2271. The restaurant is located directly across the street from the Silver Cloud Hotel. Tickets are required for the banquet (\$75.00). As the seating is limited, please purchase your ticket early.

## Agenda

Sunday, April 30<sup>th</sup>, 2023

TIME

8:00 AM-2:00 PM	<b>REGISTRATION</b>
8:30 AM	<p><b>PLENARY SESSION II:</b> Hogness Auditorium A420</p> <p><b>WELCOMING REMARKS</b></p> <p>Ratko Magjarevic, Ph.D.  President, International Federation of Medical and Biological Engineering (IFMBE)  University of Zagreb, Croatia</p> <p>Madan Rehani, Ph.D. President, International Union for Physical and Engineering Sciences in Medicine (IUPESM)  Mass General Hospital, Boston, MA</p> <p>Luis Kun, Ph.D.  President, IEEE Society on Social Implications of Technology (SSIT)  National Defense University, Washington, D.C.</p> <p><b>ANNOUNCEMENT</b></p> <p>Subrata Saha, PhD  Conference Chair, University of Washington, Seattle, WA</p>
8:45 AM	<p><b>KEYNOTE IV</b></p> <p><b>Open Science and the Future of Scientific Communication</b></p> <p>Howard Bauchner, MD, Past Editor-in-Chief of the Journal of the American Medical Association (JAMA)  Boston University School of Medicine, Boston, MA</p>
9:25 AM	<p><b>Session V: Bioethics II</b></p> <p>Chair: R. Shane Barton, MD, FAOA  LSU Health Science Center, Shreveport, LA</p> <p>Co-Chair: TBA</p>
9:25 AM	<p><b>Anti-vaxxing Movements in the United States: A Philosophical Analysis</b></p> <p>David Smith, Ph.D.  University of Washington, Seattle, WA</p>
9:40 AM	<p><b>Growth and Development of the Brain, Morality and Ethical Behavior</b></p> <p>Victoria M Mocerri, MA, Ph.D.  University of Washington, Seattle, WA</p>
9:55 AM	<p><b>Our Overwhelmed Health-Care System</b></p> <p>Wade L. Robison, Ph.D.  Rochester Institute of Technology, Rochester, NY</p>
10:10 AM	<p><b>Ethics and Medical Developments</b></p> <p>Joachim Deeg, MD,  Fred Hutchinson Cancer Center and the University of Washington, Seattle, WA</p>
10:30 AM	<b>COFFEE BFEAK</b>
11:00 AM	<p><b>Session VI: Ethical Issues in Biomedical Engineering</b></p> <p>Chair: Ratko Magjarevic, Ph.D.,  President, IFMBE  University of Zagreb, Croatia</p> <p>Co-Chair: TBA</p>
11:00 AM	<p><b>Ethical Considerations for Innovation and Maintenance for Prosthesis and Other Medical Devices</b></p> <p>Albert Manero, Ph.D., Peter Smith, Samantha Migliore, Courtney Williams, Matt Dombrowski, and John Sparkman  Limbitless Solutions, University of Central Florida, Orlando, FL</p>
11:15 AM	<p><b>3D Bioprinting, Bioinks and Nanotechnology in Medicine: Ethical and Anticipated Ethical Issues</b></p> <p>Richard L. Wilson, Ph.D.  Towson University, Towson, MD</p>

- 11:30 AM **Developing a Taxonomic Framework for Ethically Evaluating the Types of Biases Integral to Big Data EHR Studies**  
George Khushf, Ph.D., Shan Qiao, Xiaoming Li, Jiajia Zhang, and Bankole Olatosi  
University of South Carolina, Columbia, SC
- 11:45 AM **Off Label Use Versus Off-Label Marketing of Drugs: A Review of Ethical Considerations and a Caution to Researchers**  
Gail Van Norman, MD,  
University of Washington, Seattle, WA
- 12:00 PM **Organ-on-a-chip: Developments and Future Possibilities: An Ethical and Anticipatory Ethical Analysis**  
Richard L. Wilson, Ph.D.  
Towson University, Towson, MD
- 12:15-1:30 PM **LUNCH BREAK:**  
Bioethics Committee of IFMBE meeting for the members of the committee
- 1:30 PM **Keynote V**  
**Ethical Clearance Experience From the Largest Hospital-based Research Enterprise**  
Madan Rehani, Ph.D. President, IUPESM  
Mass General Hospital, Boston, MA
- 2:10 PM **Session VII: Bioethics III**  
Chair: Jack Ferracane, Ph.D.  
Oregon Health & Science University, Portland, Or  
  
Co-Chair: Anindya Deb, Ph.D.  
Indian Institute of Science (IISc), Bangalore, India
- 2:10 PM **Data is Sacred. A Theme for the Development of Responsible Conduct of Research Training Programs.**  
Philip R. DeShong, Ph.D.  
University of Maryland, College Park, MD
- 2:25 PM **The Future Landscape of AI In Medicine and New Challenges: Ethical and Anticipated Ethical Issues**  
Richard L. Wilson, Ph.D.  
Towson University, Towson, MD
- 2:40 PM **Ethics In A Daily Dental Clinical Setting**  
Richard Schmidt, DDS  
Michigan
- 2:55 PM **Contact-driven Nonlinear Explicit Dynamic FEA: A Potent Tool for Enhancing Ethics in Research and Treatment in Orthopedics**  
Anindya Deb, Ph.D.  
Indian Institute of Science (IISc), Bangalore, India
- 3:10 PM **Examples of Unethical Behavior in Academia**  
Lawrence Gettleman, DMD  
University of Louisville, Louisville, KY
- 3:25 PM **Future Ethical Challenges In Dentistry**  
Jacob Le and Subrata Saha, Ph.D.  
School of Dentistry, University of Washington, Seattle, WA
- 3:40-4:10 PM **COFFEE BREAK**
- 4:10 PM **KEYNOTE VI**  
**Past and Future of Ethical Conduct of Research**  
Adil Shamoo, Ph.D  
University of Maryland School of Medicine, Baltimore, MD

**Poster Presentation:**

**Ethics in Cancer Care In A Developing World**

Soumita Ghosh, Vivek Radhakrishnan, Sanjay Bhattacharya  
Tata Medical Center, Kolkata, India

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