

Tenth International Conference on Ethics in Biology, Engineering, and Medicine

November 13th & 14th, 2021



Preliminary Program

Welcome from the Conference Chair

I am pleased to welcome you to the Tenth 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 how to pave the way for safe and ethical advancement of implants, devices, drugs, and other technologies to improve the quality of life for our patients. The papers to be presented represent a broad spectrum of topics reflecting the exciting, but sometimes controversial nature of many of our innovations.

This conference is sponsored by the University of Washington. It is co-sponsored by the Fred Hutchinson Cancer Center, University of Washington-Bothell, Seattle University, Florida International University, International Federation of Medical and Biological Engineering (IFMBE), The American College Dentists, Biomedical Engineering Society (BMES), the American Institute for Medical and Biological Engineering (IFMBE), 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, session moderators, and the staff. The speakers are also encouraged to submit their papers for publication in Ethics in Biology, Engineering and Medicine: An International Journal. I am sure that you shall find this conference intellectually stimulating and a highly enjoyable experience.

Owing to the prevalent COVID-19 pandemic we have moved this meeting online. As some of you know, this conference was originally scheduled to be held in April 2020 and due to the COVID-19 pandemic related restrictions for meetings, this was postponed to April 2021. However, as the pandemic related restrictions continued, this meeting was finally rescheduled to our present conference dates and all times in the Program are for the Pacific Time Zone. The links for registration and joining the meetings shall be sent to everyone by e mail.

Subrata Saha

Subrata Saha, PhD, 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 guidelines for the development of innovations in Biology, Engineering, and Medicine.
- Ethical issues involved in clinical trials and animal experiments.
- Conflicts of interest and regulatory issues for biomedical research.
- Research Integrity and Responsible Conduct of Research.

Target Audience

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

Website

The program information can be obtained from

<https://dental.washington.edu/restorative-dentistry/10th-international-conference-on-ethics/>

Registration

Online registration information is available from

<https://washington.irisregistration.com/Form/4952>

Meeting site

All sessions will be held online. The links for the meeting will be sent by email.

CDE Credit

Continuing Dental Education credits will be available. 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, Email: dentalce@uw.edu

PROGRAM AT A GLANCE:

Date	Pacific Time	Session Title	Track
Saturday, November 13th 2021	8:30 AM	PLENARY SESSION I	Track 1: Zoom Link TBA
	9:00 AM	KEYNOTE I : Howard Bauchner, MD	Track 1: Zoom Link TBA
	9:40 AM	Break	
	10:00 AM	Session I : Ethical Issues in Clinical Care I	Track 1: Zoom Link TBA
	10:00 AM	Session II : Research Integrity & Responsible Conduct of Research	Track 2: Zoom Link TBA
	12:10 PM	Break	
	12:50 PM	Session III: Ethical Issues in Clinical Care II	Track 1: Zoom Link TBA
	12:50 PM	Session IV: Bioethics I	Track 2: Zoom Link TBA
	2:10 PM	Break	
	2:30 PM	PLENARY SESSION II	Track 1: Zoom Link TBA
	2:30 PM	Keynote II: Robert T. Pennock, PhD	
	3:10 PM	Session V: Bioethics II	Track 1: Zoom Link TBA
	3:10 PM	Session VI: Ethics & Medical Education	Track 2: Zoom Link TBA
	Sunday, November 14th 2021	8:30 AM	PLENARY SESSION III
8:40 AM		KEYNOTE III: Kenneth W. Goodman PhD	Track 1: Zoom Link TBA
9:20 AM		Break	
9:40 AM		Symposium I: Ethical Issues in Dentistry	Track 1: Zoom Link TBA
9:40 AM		Session VIII : Artificial Intelligence and Ethics	Track 2: Zoom Link TBA
10:00 AM		Session VII : Ethics of New Technologies in Dentistry	Track 1: Zoom Link TBA
12:00 PM		Break	
12:30 PM		Session IX: Ethical Issues in Dentistry	Track 1: Zoom Link TBA
12:30 PM		Symposium II, Session X: Ethical Issues in Cancer Research and Treatment	Track 2: Zoom Link TBA
2:50-3:10 PM		Break	
3:10 PM		Session XI : Neuroethics	Track 1: Zoom Link TBA
3:10 PM		Session XII: Ethical Issues in Biomedical Engineering	Track 2: Zoom Link TBA
5:00 PM		Session XIII : Ethical Challenges and COVID 19 Pandemic	Track 2: Zoom Link TBA

AGENDA

Saturday, November 13th 2021

TIME ALL TIMES ARE FOR THE PACIFIC TIME ZONES

8:30 AM **PLENARY SESSION I: Track 1**

ANNOUNCEMENT

Subrata Saha, PhD

Conference Chair, University of Washington, Seattle, WA

WELCOMING REMARKS

Gary T. Chiodo, DMD, FACD

Professor and Dean, School of Dentistry, University of Washington, Seattle, WA

Robert T. Pennock, PhD

Michigan State University, East Lansing, MI

President, Sigma Xi, Scientific Research Honor Society

Shankar Krishnan, PhD

Wentworth Institute of Technology, Boston, MA

President, International Federation of Medical and Biological Engineering

9:00 AM **KEYNOTE I: Track 1**

Evolving Issue Related to Conflict of Interest in Biomedical Research

Howard Bauchner, MD, Previous Editor in Chief, Journal of American Medical Association

9:40 AM **Break**

Track 1

Session I : Ethical Issues in Clinical Care I

Chair:

R. Shane Barton, MD, FAOA.

LSU Health Science Center, Shreveport, LA

10-10:15 AM **The Ethical Complexities of Kidney Dialysis**

AM

Buddy D. Ratner, PhD

University of Washington, Seattle, WA

10:00 AM

Track 2

Session II : Research Integrity & Responsible Conduct of Research

Chair:

Sue Herring, PhD

University of Washington, Seattle, WA

INVITED LECTURE: Fostering Ethical Conduct of Research

Adil E. Shamoo, PhD

Editor in-Chief. Accountability in Research.

University of Maryland School of Medicine,

Baltimore, MD

10:15-10:20 AM

Q&A

10:25-10:30 AM

Q&A

10:20-10:35 AM **Balancing Hope and Harm: The Use of Heroic Surgical Innovations Under Dire Circumstances in Pediatric Cardiac Intensive Care**

Mithya Lewis-Newby, MD, MPH

University of Washington, Seattle, WA

10:30-10:45 AM

Investigating Bias and Investigating Fairness in Search and Recommendation

Chirag Shah, PhD

University of Washington, Seattle, WA

10:35-10:40 AM

Q&A

10:45-10:50 AM

Q&A

10:40-10:55 AM **Ethical Considerations in the Management of Fragility Fractures**

Shivleen Gill, MBBS, MS, Suhirad Khokhar.

Akshay Malhotra, Vedant Vaksha, MBBS, MS,

Complete Orthopedics, Stony Brook, NY, Nakul

Karkare, MD., Lenox Hill Hospital. New York, NY

10:50-11:05 AM

Data is Sacred. A Theme for the Development of Responsible Conduct of Research Training Programs

Philip DeShong, PhD

University of Maryland, College Park, MD

10:55-11:00 AM	Q&A	11:05-11:10 AM	Q&A
11:00-11:15 AM	Role of EQ in Ethical Decision Making Joy Basu, MBBS, FIMSA, MBA, MPhil Apollo Gleneagles Hospitals, Kolkata, India	11:10-11:25 AM	Managing Institutional Conflict of Interest at Academic Research Institutions Matthew McCoy, PhD University of Pennsylvania, Philadelphia, PA
11:15-11:20 AM	Q&A	11:25-11:30 AM	Q&A
11:20-11:35 AM	Ethical Issues in International Clinical Trials with Vulnerable Population in Developing Countries: The Case of Pfizer Meningitis Fatal Drug Trial on Children in Nigeria Chiedu Obi, PhD Duquesne University, Pittsburgh, PA	11:30-11:45 AM	Inclusion in Research: Much Work to be Done Catherine Spong, MD UT Southwestern Medical Center, Dallas, TX
11:35-11:40 AM	Q&A	11:45-11:50 AM	Q&A
11:40-11:55 AM	Toward a Better Understanding of Risk Taking in Medical Decision Making David S. Dinhofer, MD, MSMI, FACR, Robert Wood Johnston /St. Barnabas Medical Center, NJ, USA. Shweta Agarwal , PhD, London School of Economics, UK		
11:55AM-12:00PM	Q&A		
12:10-12:45 PM	Break		
	Session III: Ethical Issues in Clinical Care II Track 1 Chair: R. Shane Barton, MD, FAOA. LSU Health Science Center, Shreveport, LA		Session IV: Bioethics I Track 2 Chair: Luis Kun, PhD, Washington D.C.
12:50-1:05 PM	Clinical Trials in Osteoporosis Research: Ethical Considerations Shivleen Gill, MBBS , MS, Suhirad Khokhar. Akshay Malhotra, Vedant Vaksha, MD, MS Complete Orthopedics, Stony Brook, NY Nakul Karkare, MD., Lenox Hill Hospital. New York, NY	12:50-1:05 PM	4D Printing in Medicine and Healthcare: An Anticipatory Ethical Analysis Richard L. Wilson. PhD Towson University, Towson, MD University of Baltimore, Baltimore, MD
1:05-1:10 PM	Q&A	1:05-1:10 PM	Q&A
1:30-1:45 PM	Ethical Considerations in Total Joint Arthroplasty Rupesh Tarwala , MD, Nakul Karkare MD, Orthopedic Surgery, Lenox Hill Hospital, NY	1:10 -1:25 PM	The Best Healthcare System Wade L. Robison Rochester Institute of Technology, Rochester, NY
1:45-1:50 PM	Q&A	1:25 -1:30 PM	Q&A
		1:30 – 1:45 PM	Care Ethics: Transferring Best Practices from Biology, Engineering and Medicine to Improve Business Practices. Elizabeth Robson, JD, Christine Perakslis, EdD, Shiffoni Sukhala, Johnson & Wales University, Providence, RI
		1:45-1:50 PM	Q&A

1:50-2:05 PM **All Sore Eyes and Beasts: Spiritual Care Providers' Role in EOL Existential Distress and the Ethics of Respite or Palliative Sedation**

CH Debra Josephson Abrams, DA, Parts of Speech Educational Creativity, David B. Brecher, MD, FAAFP, FAAHPM, Douglas W. Lane, Ph.D., ABPP, C.Psychol., Veterans Administration Puget Sound Health Care System, Seattle, WA

2:05-2:10 PM Q&A

2:10-2:25 PM **Break**

2:30 PM **PLENARY SESSION II**

Keynote II

Track 1

What Traits of Character do Exemplary Science Value? : Results from the Scientific Virtues Survey

Robert T. Pennock, PhD, Michigan State University, East Lansing, MI, President, Sigma Xi, Scientific Research Honor Society

Session V: Bioethics II

Track 1

Chair:

Wade L. Robison, PhD
Rochester Institute of Technology, Rochester, NY

3:10-3:25 PM **Reimaging Consent in Pragmatic Cluster Randomized Trials when Death is on the Line: What Time and Day are Their Options?**

Benjamin S. Wilford, MD
University of Washington, Seattle, WA
Seattle Children's Hospital, Seattle, WA

3:25-3:30 PM Q&A

3:30-3:45 PM **Social Duties Regarding Autonomy and Addiction**

Steve Scales, PhD
Towson University, Towson, MD

3:45-3:50 PM Q&A

3:50-4:05 PM **Eco-Violence: A Threat to Global Health**

John Mark Ogu, PhD
Duquesne University, Pittsburgh, PA

4:05-4:10 PM Q&A

4:10-4:25 PM **Translational Research and Major Bioethical Challenges to Bioengineers**

Ham Benghuzzi, PhD

Session VI: Ethics & Medical Education

Track 2

Chair:

Kahlia Keita, MA, JD.
MedStar Washington Hospital Center, Washington DC

3:10-3:25 PM **Modern Surgical Education and the Principle of Primum Non Nocere**

R. Shane Barton, MD, FAOA.
LSU Health Science Center, Shreveport, LA

3:25-3:30 PM Q&A

3:30-3:45 PM **The Ethics of Advising Low-Performance College Students Aspiring for Professional School**

Gregory Wm. Buck, PhD
Texas A&M University, Corpus Christi, TX

3:45-3:50 PM Q&A

3:50-4:05 PM **Innovative Pedagogy for Ethics in Undergraduate Biomedical Engineering Curriculum**

Shankar Krishnan, PhD
Wentworth Institute of Technology, Boston, MA

4:05-4:10 PM Q&A

4:10-4:25 PM **Technologies, Artifacts, and Case Based Analysis. A Methodology for Introducing Anticipatory Biomedical Ethics**

Executive Director, Mississippi Academy of Sciences, Jackson, MS

Richard L. Wilson, PhD
Towson University, Towson, MD; University of Baltimore, Baltimore, MD

4:25-4:30 PM

Q&A

4:25-4:30 PM

Q&A

4:30-4:45
PM

**Robotic Process Automation and Ethical Issues
in COVID-19 Management**

Raman Puri, Akshay Malhotra, Alok Karkare,
Anil Kapoor
SVAM International Inc. New York, NY
Nakul Karkare, MD
Lenox Hill Hospital. New York, NY

4:45-4:50 PM

Q&A

Sunday, November 14th 2021

TIME	
8:30 AM	PLENARY SESSION III: ANNOUNCEMENT Subrata Saha, PhD, Conference Chair University of Washington, Seattle, WA
8:40 AM	KEYNOTE III Onco-ethics: Big Data, Artificial Intelligence, Virtual Reality and Patient Kenneth W. Goodman PhD, FACMI, FACE Miller School of Medicine, University of Miami, Miami, FL
9:20 AM	Break
9:40 AM	<u>Symposium: Ethical Issues in Dentistry</u> Track 1 WELCOMING REMARKS Daniel C.N. Chan, DMD, MS Chair & Professor, Dept. Restorative Dentistry, School of Dentistry, University of Washington Theresa Gonzales, DMD, MS, MSS Executive Director, American College of Dentists Susan Adams, DDS Chair of Washington Section of the American College of Dentists
9:40 AM	<u>Session VIII : Artificial Intelligence and Ethics</u> Track 2 Chair: Nathan Colaner, PhD Seattle University, Seattle, WA 9:40-10:05 AM INVITED LECTURE: Self-driving Vehicles: A Precautionary Tale Michael Quinn, PhD Dean, College of Science and Engineering Seattle University, Seattle, WA
10:00- 10:25AM	INVITED LECTURE: Ethics of Introducing New Technologies in Dental Practice David Ozar, PhD Loyola University, Chicago, IL.
10:05-10:10AM	Q&A
10:10- 10:35 AM	INVITED LECTURE: Ethical Challenges Integral to Development of AI Based Medical Assistants George Khushf, PhD University of South Carolina, Columbia, SC
10:35-10:40AM	Q&A
10:40- 10:55 AM	Ethics in Artificial Intelligence: The Hidden Danger Alan M Reznik, MD, MBA Connecticut Orthopaedics, Hamden, CT Yale School of Medicine, New Haven, CT Fred R. T. Nelson, MD Henry Ford Hospital, Detroit, MI Wayne State University School of Medicine, Detroit, MI
10:25- 10:30AM	Q&A
10:55-11:00AM	Q&A

10:30-10:55 AM	INVITED LECTURE: Technology is Changing the Ethical Landscape in Dentistry David W. Chambers, EdM, MBA, PhD University of the Pacific School of Dentistry, San Francisco, CA	11:00-11:15 AM	Framing the Ethics of Artificial Intelligence Within the Larger Scientific Community: Issues, Challenges, and Roadblocks Uma G. Gupta, PhD University of South Carolina at Upstate, Spartanburg, SC
10:55-11AM	Q&A	11:15-11:20AM	Q&A
11:00-11:15 AM	Ethics in Materials Selections for Grafting Purposes Ram M. Vaderhobli, DDS, MS University of California San Francisco, San Francisco, CA	11:20-11:35 AM	Ethical Implications of the Production and Use of Biofuels and Their Relationships to Environment and Society Baishali Kanjilal, PhD University of California, Riverside, CA Subrata Saha, PhD University of Washington, Seattle, WA
11:15-11:20AM	Q&A	11:35-11:40AM	Q&A
11:20-11:35 AM	Ethical Considerations in Dental Implants – An Overview Aurobindo Saha, BDS and Prashant Tomar, BDS West Bengal, India		
11:35-11:40	Q&A		
11:40-11:55 AM	5G, the Internet of Medical Things, and Anticipatory Ethics Richard L. Wilson, PhD Towson University, Towson, MD		
11:55AM-12:00PM	Q&A		
12:00 – 12:25 PM	BREAK		
	<u>Symposium I: Ethical Issues in Dentistry</u> Track 1		<u>Symposium II: Ethical Issues in Cancer Research and Treatment</u> Track 2
	<u>Session IX: Ethical Issues in Dentistry</u> Chair: Sara Gordon, DDS, MS University of Washington, Seattle, WA		<u>Session X : Ethical Issues in Cancer Research and Treatment</u> Chair: TBA
12:30-12:45 PM	A Clinical Ethics Approach to Dental Patient Care Lawrence P. Garetto, PhD and Lauren E. Hagel, DDS, University of Washington, Seattle, WA	12:30-12:45 PM	Uncertainty and Ethics in the Treatment of Patients with Hematologic Malignancies 2020 H. Joachim Deeg, MD, Fred Hutchinson Cancer Research Center and University of Washington, Seattle, WA
12:45-12:50PM	Q&A	12:45-12:50PM	Q&A
12:50-1:05 PM	Unconfirmed Diagnosis and Misdiagnosis in Specialist Dental Practice: Ethical Challenges and Implications in Oral Health Care Delivery Prof. Flix N. Chukwunke University of Nigeria Nsukka, Nsukka, Enugu State, Nigeria	12:50-1:05 PM	The Ethics of Observing Differential Thyroid Cancer in the U.S. Now That We Have Some Outcomes Data Brendon C. Stack, Jr., MD, FACS, FACE University of Arkansas for Medical Sciences, Little Rock, AR

1:05-1:10PM	Q&A	1:05-1:10PM	Q&A
1:10-1:25 PM	Informed Consent: Ethical Challenges as the Profession has Evolved	1:10-1:25 PM	Bioethical Considerations in Personalized Medicine
	Ajay Kashi, DDS, PhD, FICOI Rochester, New York		Raj R. Rao, Ph.D. University of Arkansas, Fayetteville, AR
1:25-1:30PM	Q&A	1:25-1:30PM	Q&A
1:30-1:45 PM	Taking the High Road: My Ethical Conflicts and Their Professional Consequences	1:30-1:45 PM	Ethical Challenges in the Management of Late Stage Cancer in Culture Bound Society with Low Resource Economy.
	Lawrence Gettleman, DMD University of Louisville, Louisville, KY		Prof. Flix N. Chukwunke University of Nigeria Nsukka, Nsukka, Enugu State, Nigeria
1:45-1:50PM	Q&A	1:45-1:50PM	Q&A
1:50-2:05 PM	The La Cascada Declaration Revisited	1:50-2:05 PM	The Genome of Research Ethics in Precision Health
	Aubrey R. Hopkins, DMD, ABGD Veteran's Health Administration Seattle, WA		Marilyn J. Hammer, PhD, DC, RN, FAAN Dana-Farber Cancer Institute, Boston, MA
2:05-2:10PM	Q&A	2:05-2:10PM	Q&A
2:10-2:25 PM	Dentists' Ethical Involvement in the Treatment of Sleep Breathing Issues: Who is the Gatekeeper?	2:10-2:25 PM	Ethical Issues of the Use of Experimental Treatments: A Delicate Balance Between Uncertainty and Possibility
	Rodney B. Wentworth, DDS University of Washington, Seattle, WA		Chiedu Obi, PhD Duquesne University, Pittsburgh, PA
2:25-2:30PM	Q&A	2:25-2:30PM	Q&A
2:30-2:45 PM	TBA		
2:45-2:50PM	Q&A		
2:50-3:10 PM	Break		
	Session XI : Neuroethics		Session XII: Ethical Issues in Biomedical Engineering
	Track 1 Chair: Pratik Y. Chhatbar, MBBS, Ph.D, Duke University, Durha, NC		Track 2 Chair: Shankar Krishnan, PhD Wentworth Institute of Technology, Boston, MA
3:10-3:25 PM	Protecting Agency in Neurotechnology Development: Ethical Issues for Implantable Neural Devices	3:10PM	INVITED LECTURE: Ethical Implications of Medical Product Market Size Estimate
	Sara Goering, PhD University of Washington, Seattle, WA		Arthur J. Coury, PhD Northeastern University, Boston, MA
3:25-3:30PM	Q&A		Q&A
3:30-3:45 PM	Ethical Considerations of Induced Pluripotent Stem Cells (iPSCs) in Neurodegenerative Therapy	3:40-3:55 PM	Why Modelling Reproducibility is an Ethical Issue, and How to Provide it
	Aryaa Karkare University of Rochester, Rochester, NY		James B. Bassingthwaigthe, MD, PhD University of Washington, Seattle, WA
3:45-3:50PM	Q&A	3:55-4:00PM	Q&A

3:50-4:05 PM	CRISPR and Cognitive Enhancement: An Anticipatory Ethical Analysis	4:00-4:15 PM	Ethics of Using Animal Models as Predictions of Human Response in Tissue Engineering
	Richard L. Wilson, PhD Towson University, Towson, MD University of Baltimore, Baltimore, MD		Nancy Pleshko, PhD Temple University, Philadelphia, PA.
4:05-4:10PM	Q&A	4:15-4:20PM	Q&A
4:10-4:25 PM	“Yuck-To-Yippie”: How Technology Can Make Us More Human and More Moral to Tackle Emerging Complex Ethical Issues Challenges and Gender Diversity in Neurology Research	4:20-4:35 PM	Ethical Issues in Tissue Engineering
	Janay Parish and Shefali Karkare, MD Alexandra and Steven Cohen Children’s Medical Center, Long Island, NY		Rupak Dua, PhD Hampton University, Hampton, VA
4:25-4:30PM	Q&A	4:35-4:40PM	Q&A
4:30-4:45 PM	End of Life Decision-Making: Brain Death and Vital Organ Transplantation – Does the Concept Still Work?	4:40-4:55 PM	Translational Research and Major Bioethical Challenges to Bioengineers
	Gail A. Van Norman, MD. University of Washington, Seattle, WA		Ham Benghuzzi, PhD Executive Director, Mississippi Academy of Sciences, Jackson, MS
4:45-4:50PM	Q&A	4:55-5:00PM	Q&A
4:50-5:05 PM	Ethical Considerations for the Implantation of Neuromodulatory Devices in Children		Session XIII : Ethical Challenges and COVID 19 pandemic Track 2 Chair: Baishali Kanjilal, PhD University of California, Riverside, CA
	Nidhi Ravishankar, Sanjay Kothare and Shefali Karkare, Cohen Children’s Medical Center Northwell Health, New Hyde Park, NY		
5:05-5:10PM	Q&A	5:00-5:15 PM	Ethics and Experience of the Covid 19 Pandemic in a Division 1 Athletic Program
			Larry Bowman, MS, MD, Douglas Reeves MD, Tenley Murphy MD Clemson, South Carolina
		5:15-5:20PM	Q&A
		5:20-5:35 PM	Ethical Guidance in Politics and Public Health: Lessons from the SARS-COV-2 Pandemics-A Study in Global Ethics
			Amit Chattopadhyay, PhD (Epidemiology); PhD (Philosophy); MBA; MPH; FEPH-RCP(UK); MDS; Baltimore City, Health Dept. Baltimore, MD
		5:35-5:40PM	Q&A
		5:40-5:55pm	Ethics, COVID19, and Athletic Participation
			Larry Bowman, MS, MD Clemson, South Carolina
		5:55-6:00PM	Q&A

This conference is Co-sponsored or Endorsed by:

