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

**November 13th & 14th, 2021**

**Pacific Time Zone**

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

PROGRAM AT A GLANCE:

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| --- | --- | --- | --- |
| **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 |
| 2:00 PM | Break |  |
| 2:30 PM  2:30 PM | PLENARY SESSION II  Keynote II: Robert T. Pennock, PhD | Track 1: Zoom Link TBA |
| 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 | Track 1: Zoom Link TBA |
| 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 |

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| **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 |  |  | Track 2 |
|  | **Session I : Ethical Issues in Clinical Care I** |  |  | **Session II : Research Integrity & Responsible Conduct of Research** |
|  | Chair:  R. Shane Barton, MD, FAOA.  LSU Health Science Center, Shreveport, LA |  |  | Chair:  Sue Herring, PhD  University of Washington, Seattle, WA |
| 10-10:15 AM | **The Ethical Complexities of Kidney Dialysis**  Buddy D. Ratner, PhD University of Washington, Seattle, WA |  | 10:00 AM | **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 | **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 |  | 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** |  | **10:45-10:50AM** | **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 | **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 |  |  |  |
| **11:55AM-12:00PM** | **Q&A** |  |  |  |
| 12:10-12:45 PM **Break** | | | | |
|  |  |  |  |  |
|  | **Session III: Ethical Issues in Clinical Care II** |  |  | **Session IV: Bioethics I** |
|  | **Track 1** |  |  | **Track 2** |
|  | Chair: R. Shane Barton, MD, FAOA.  LSU Health Science Center, Shreveport, LA |  |  | Chair: Luis Kun, PhD  **President Elect, IEEE, Society for Social Implications of Technology**  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** |
| 1:10-1:30 PM | **Ethical Considerations in Total Joint Arthroplasty**  Rupesh Tarwala , MD, Michelle Dipaolo, PA-C,  Alok Karkare, Orthopedic Surgery, Lenox Hill Hospital, NY |  | 1:10 -1:25 PM | **The Best Healthcare System**  Wade L. Robison, PhD  Rochester Institute of Technology, Rochester, NY |
| **1:30-1:35 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** |
| 1:35-1:55 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 |  |  |  |
| **1:55-2:00 PM** | **Q&A** |  |  |  |
| 2:00-2:30 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** |  |  | **Session VI: Ethics & Medical Education** |
|  | Track 1 |  |  | Track 2 |
|  | Chair:  Wade L. Robison, PhD  Rochester Institute of Technology, Rochester, NY |  |  | Chair:  Kahlia Keita, MA, JD.  MedStar Washington Hospital Center, Washington DC |
| 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. Wilfond, MD  University of Washington, Seattle, WA  Seattle Children’s Hospital, Seattle, WA |  | 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** |  | **3:25-3:30 PM** | **Q&A** |
| 3:30-3:45 PM | **Social Duties Regarding Autonomy and Addiction**  Steve Scales, PhD  Towson University, Towson, MD |  | 3:30-3:45 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** |  | **3:45-3:50 PM** | **Q&A** |
| 3:50-4:05 PM | **Eco-Violence: A Threat to Global Health**  John Mark Ogu, PhD Duquesne University, Pittsburgh, PA |  | 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** |  | **4:05-4:10 PM** | **Q&A** |
| 4:10-4:25 PM | **Translational Research and Major Bioethical**  **Challenges to Bioengineers**  Ham Benghuzzi, PhD  Executive Director, Mississippi Academy of Sciences, Jackson, MS |  | 4:10-4:25 PM | **Technologies, Artifacts, and Case Based Analysis. A Methodology for Introducing Anticipatory Biomedical Ethics**  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** |  |  |  |
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| 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 | **Symposium I: Ethical Issues in Dentistry**  Track 1 |  | 9:40 AM | **Session VIII : Artificial Intelligence and Ethics**  Track 2 |
|  | **WELCOMING REMARKS**  Daniel C.N. Chan, DMD, MS  Chair & Professor, Dept. Restorative Dentistry, School of Dentistry, University of Washington |  |  | Chair:  Nathan Colaner, PhD Seattle University, Seattle, WA |
|  | Theresa Gonzales, DMD, MS, MSS  Executive Director, American College of Dentists  Susan Adams, DDS  Chair of Washington Section of the American College of Dentists |  | 9:40-10:05 AM | **INVITED LECTURE: Self-driving Vehicles: A Precautionary Tale**  Michael Quinn, PhD Dean, College of Science and Engineering  Seattle University, Seattle, WA |
|  |  |  | **10:05-10:10AM** | **Q&A** |
|  | **Session VII : Ethics of New Technologies in Dentistry**  Chair: Lance Rucker, DDS  University of British Columbia, Vancouver, BC, Canada |  | 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** |
| 10:00-10:25AM | **INVITED LECTURE: Ethics of Introducing New Technologies in Dental Practice**  David Ozar, PhD Loyola University, Chicago, IL. |  | 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**  Sukhjit Gill, DDS  Mohsen Forghany, DDS  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** | | | |
|  | **Symposium I: Ethical Issues in Dentistry**  Track 1 |  |  | **Symposium II: Ethical Issues in Cancer Research and Treatment**  Track 2 |
|  |  |  |  |  |
|  | **Session IX: Ethical Issues in Dentistry**  Chair:  Sara Gordon, DDS, MS University of Washington, Seattle, WA |  |  | **Session X : Ethical Issues in Cancer Research and Treatment**  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. Chukwuneke 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**  Ajay Kashi, DDS, PhD, FICOI Rochester, New York |  | 1:10-1:25 PM | **Bioethical Considerations in Personalized Medicine**  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**  Lawrence Gettleman, DMD University of Louisville, Louisville, KY |  | 1:30-1:45 PM | **Ethical Challenges in the Management of Late Stage Cancer in Culture Bound Society with Low Resource Economy.**  Prof. Flix N. Chukwuneke 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**  Aubrey R. Hopkins, DMD, ABGD  Veteran’s Health Administration  Seattle, WA |  | 1:50-2:05 PM | **The Genome of Research Ethics in Precision Health**  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?**  Rodney B. Wentworth, DDS  University of Washington, Seattle, WA |  | 2:10-2:25 PM | **Ethical Issues of the Use of Experimental Treatments: A Delicate Balance Between Uncertainty and Possibility**  Chiedu Obi, PhD Duquesne University, Pittsburgh, PA |
| **2:25-2:30PM** | **Q&A** |  | **2:25-2:30PM** | **Q&A** |
| 2:30-2:45 PM | **Medical Ethics and Culture - Personal Experiences from the Middle East**  D. John Doyle, MD, PhD, DPhil  Cleveland Clinic/Case Western Reserve University, Cleveland, OH |  |  |  |
| **2:45-2:50PM** | **Q&A** |  |  |  |
| 2:50-3:10 PM | **Break** |  |  |  |
|  | **Session XI : Neuroethics**  Track 1  Chair: Pratik Y. Chhatbar, MBBS, Ph.D, Duke University, Durham, NC |  |  | **Session XII: Ethical Issues in Biomedical Engineering**  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**  Sara Goering, PhD University of Washington, Seattle, WA |  | 3:10-3:35 PM | **INVITED LECTURE: Ethical Implications of Medical Product Market Size Estimate**  Arthur J. Coury, PhD Northeastern University, Boston, MA |
| **3:25-3:30PM** | **Q&A** |  | **3:35-3:40 PM** | **Q&A** |
| 3:30-3:45 PM | **Ethical Considerations of Induced Pluripotent Stem Cells (iPSXCs) in Neurodegenerative Therapy**  Aryaa Karkare  University of Rochester, Rochester, NY |  | 3:40-3:55 PM | **Why Modelling Reproducibility is an Ethical Issue, and How to Provide it**  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**  Richard L. Wilson, PhD Towson University, Towson, MD University of Baltimore, Baltimore, MD |  | 4:00-4:15 PM | **Ethics of Using Animal Models as Predictions of Human Response in Tissue Engineering**  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**  Janay Parish and Shefali Karkare, MD  Alexandra and Steven Cohen Children’s Medical Center, Long Island, NY |  | 4:20-4:35 PM | **Ethical Issues in Tissue Engineering**  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?**  Gail A. Van Norman, MD.  University of Washington, Seattle, WA |  | 4:40-4:55 PM | **Translational Research and Major Bioethical**  **Challenges to Bioengineers**  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**  Nidhi Ravishankar and Shefali Karkare, Cohen Children’s Medical Center Northwell Health, New Hyde Park, NY |  |  | **Session XIII : Ethical Challenges and COVID 19 pandemic**  Track 2  Chair: Baishali Kanjilal, PhD University of California, Riverside, CA |
| **5:05-5:10PM** | **Q&A** |  |  |  |
| 5:10-5:25 PM | **Is Chronic Pain Innocent Suffering?**  Mark D. Sullivan, MD, PhD  University of Washington |  | 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 |
| **5:25-5:30PM** | **Q&A** |  | **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:**

