THE FOURTH INTERNATIONAL CONFERENCE ON ETHICAL ISSUES IN BIOMEDICAL ENGINEERING

APRIL 20-22, 2007

SUNY DOWNSTATE MEDICAL CENTER
POLYTECHNIC UNIVERSITY

Department of Orthopaedic Surgery & Rehabilitation Medicine
SUNY Downstate Medical Center
450 Clarkson Avenue - Box 30
Brooklyn, New York 11203
4th INTERNATIONAL CONFERENCE ON ETHICAL ISSUES IN BIOMEDICAL ENGINEERING

Conference Registration Form
Conference Date: April 20 - 22, 2007
Conference Site: Polytechnic University
5 Metrotech Center, Brooklyn, NY 11201

Attendee Information
Name: 
Title: 
Affiliation: 
E-mail: 
Company: 
Address: 
State/Province: 
Zip/Postal Code: 
Country: 
Phone: 

Please complete this form and mail or Fax to:
Subrata Saha, Ph.D. Conference Chair
Department of Orthopaedic Surgery & Rehabilitation Medicine
SUNY Downstate Medical Center
450 Clarkson Avenue - Box 30
Brooklyn, New York 11203
Fax - (718)-270-3983

or go to website:
http://www.poly.edu/graduate/bioethics2007/

Registration Fees

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<th>Registration Fee</th>
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<tr>
<td>Registration Fee</td>
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<td>*One-day registration</td>
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<td>$90.00</td>
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  - American Express
  - Mastercard
  - Visa

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Welcome from the Conference Chair

I am pleased to welcome you to the Fourth International Conference on Ethical Issues in Biomedical Engineering. Our goal is to bring together biomedical engineers, philosophers, research scientists, lawyers, students, clinicians and representatives from the industry and federal agencies to discuss the ethical issues that face us as we develop new implants, devices and treatments to improve the quality of life of our patients. The papers to be presented represent a broad range of topics reflecting the exciting, but sometimes controversial nature of many of the new developments in biomedical engineering.

We are fortunate that the SUNY Downstate Medical Center and Polytechnic University have sponsored this conference. We are grateful for the financial support from the Conversations in the Disciplines Program of the State University of New York (SUNY), City College of New York and several other companies.

Many people contributed to the success of this conference. I would like to thank the Local Program Committee, the authors, session moderators, panel members, and the keynote speakers, Drs. George Bugliarello, Gregory Eastwood, and William Hendee. I am indebted to Mr. Westley Hayes and Dr. Ajay Kashi for their hard work to make this conference a success. The abstracts from this conference will be published in a special issue of the International Journal of Medical Implants and Devices that will be distributed at the conference. I am grateful to Dr. Jafar Vossoughi, the Editor of this journal, for his help in publishing this special issue.

I am convinced that you shall find this conference intellectually stimulating and a highly enjoyable experience. Welcome to Brooklyn, New York.

Subrata Saha
Subrata Saha, Ph.D., Conference Chair
Department of Orthopaedic Surgery & Rehabilitation Medicine
SUNY Downstate Medical Center
Brooklyn, New York 11203
Accreditation Statement
This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the State University of New York (SUNY) Downstate Medical Center and Polytechnic University. SUNY Downstate Medical Center is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. SUNY Downstate Medical Center designates this continuing medical education activity for a maximum of 17.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

CME Disclaimer Statement
SUNY Downstate Medical Center and its affiliates are committed to providing educational activities that are objective, balanced and as free of bias as possible. All participating faculty are expected to disclose to the audience, verbally or in writing, any commercial relationships that might be perceived as a real or apparent conflict of interest related to the content of their presentations, i.e. with companies whose products or services are related to the subject matter of the presentation; or products in the research and development phase.

Special Needs
In accordance with the Americans with Disabilities Act (ADA), SUNY Downstate Medical Center seeks to make this conference accessible to all. If you have a disability which might require special accommodations, please contact Dr. Subrata Saha, Phone: (718)-613-8652, Subrata.Saha@downstate.edu.

Needs Statement
The field of biomedical research leads to new treatment modalities and the leadership at SUNY Downstate Medical Center and Polytechnic University saw the need for a workshop to update the medical and scientific community in Brooklyn and the tri-state area of the ethical guidelines that need to be followed.

Educational Objectives
At the conclusion of this workshop, participants will:
• be aware of ethical guidelines for new potential treatment modalities
• be aware of ethical issues involved in clinical trials and animal experiments
• be aware of conflict of interest and regulatory issues for new devices

Target Audience
All practicing physicians, research scientists, physical therapists, professors, and students
Reception and Banquet will be held at:

A The New York Marriott at the Brooklyn Bridge, 333 Adams Street, Brooklyn, NY 11201

Technical Programs will be held at:

B Dibner Auditorium, Polytechnic University, 5 MetroTech Center, Brooklyn, NY 11201

Site Map

Hotel Information
Located within Renaissance Plaza, and across the street from Polytechnic University - located in MetroTech, the New York Marriott at the Brooklyn Bridge is 5 minutes from Manhattan and the Financial District, with 9 major subway lines all within one block. The New York Marriott at the Brooklyn Bridge is the only full service hotel in Brooklyn. A block of rooms at the Marriott New York at the Brooklyn Bridge have been reserved at a special reduced rate of $179 per day for conference attendees during the conference. To receive this special rate, please mention “Ethics Conference” while booking the room. Please note that this special rate is valid until April 6th, 2007.

Call for Reservations:
Toll Free: (888)-436-3759
Phone: (718)-246-7000
Fax: (718)-222-6520
Website - http://brooklynmarriott.com
Friday, April 20, 2007
Marriott in Brooklyn, 333 Adams Street, Brooklyn, NY 11201
6:00–8:00pm  Registration and Reception  
The New York Marriott at the Brooklyn Bridge

Saturday, April 21, 2007
Dibner Auditorium, Polytechnic University, 5 MetroTech Center, 
Brooklyn, NY 11201
8:00am–4:00pm  Registration

9:00 – 9:15am  Welcome & Introductions  
John R. Ryan, Vice Admiral, USN (Ret)  
Chancellor, State University of New York,  
Albany, NY 12246
John C. LaRosa, M.D.  
President, SUNY Downstate Medical Center,  
Brooklyn, NY 11203
Jerry MacArthur Hultin  
President, Polytechnic University,  
Brooklyn, NY 11201

9:15 – 9:20am  Announcements  
Subrata Saha, Ph.D.  
Conference Chair  
Director of Musculoskeletal Research  
SUNY Downstate Medical Center,  
Brooklyn, NY 11203

9:20 – 10:00am  Keynote Address  
Biomedical Engineering Ethics and  
Cultural Specificity  
George Bugliarello, Ph.D.  
President Emeritus and University Professor  
Polytechnic University, Brooklyn, NY 11201

10:00 – 10:30am  Coffee Break

10:30am–12:30pm  Ethics of Nanobiotechnology
Co-Chairs  
Sunil Kumar, Ph.D.  
Polytechnic University, Brooklyn, NY 11201
Nathaniel C. Cady, Ph.D.  
University at Albany, Albany, NY 12203
10:30 The Next Stage in Responsible Conduct: Macroethics of Nanobiotechnology Research
Tod Laursen, Ph.D., Daniel Vallero, Ph.D.,
Timothy Lenoir, Ph.D., Robert Clark Ph.D., and
William Reichert, Ph.D.
Duke University, Durham, NC 27708

10:45 Beyond Responsible Conduct: Macroethics of Nanobiotechnology
Daniel Vallero, Ph.D., Tod Laursen, Ph.D.,
Timothy Lenoir, Ph.D., and William Reichert, Ph.D.
Duke University, Durham, NC 27708

11:00 Political Morality in Liability for Medical Nanotechnology
Kuan-Ting Chi, LL.M, M.A.
University of Sheffield, Sheffield, South Yorkshire
S10 1GR, United Kingdom

11:15 Ethical Dimensions to Nanotechnology
Raymond Van Dyke, Esq. M.S., J.D.
Nixon Peabody LLP, Washington, D.C. 20004

11:30 Ethics of Nanobiotechnology
Regi Mon Cherian, M.B.A.
UMC St Radboud Nijmegen Medical Centre, Nijmegen,
6500HB, Netherlands

11:45 Nanobiotechnology, Ethics, and Risks
Wade Robinson, Ph.D.
Rochester Institute of Technology, Rochester, NY 14623

12:00 Ethics of Nanotechnology Across Cultures
Uma G. Gupta, Ph.D.
SUNY Brockport, Brockport, NY 14420

12:15 A Taxonomy of the Ethical Issues Integral to Nanobiotechnology
George Khushf, Ph.D., Catherine Murphy Ph.D. and
Qian Wang Ph.D.
University of South Carolina, Columbia, SC 29208

12:30–2:00pm Panel Discussion & Lunch
Marketing, Payment and Regulation of Biomedical Devices: Ethical Concern
Co-Chairs
Subrata Saha, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203
Dane Miller, Ph.D.
Biomet Inc. Warsaw, IN 46582
Panel Members

James A. Albright, M.D.
LSU Health Sciences Center, Shreveport, LA 71130

Richard Treharne, Ph.D.
Active Implants Corporation, Memphis, TN 38120

Mark S. Mintzer
Global Patient Network, Fountain Valley, CA 92708

Timothy Kriewall, Ph.D.
Wisconsin Lutheran College, Milwaukee, WI 53226

Tofy Mussivand, M.D.
University of Ottawa Heart Institute, Ottawa, ON K1Y 4W7, Canada

2:00pm–3:30pm Advances in Biomedical Technology: Ethical Concerns

Co-Chairs
Susan Schwartz-Giblin, Ph.D., and John Chapin, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203

2:00
Neuroethics: Issues and Dialectic at the Intersection of Technology, Mind and Society
James Giordano, Ph.D., M.Phil.
Georgetown University Medical Center, Washington, DC 20057

2:15
Health Information Security and Sensemaking: A Case Study in Embedded Ethics
Ted Cooper, M.D.¹, Henry Neidermeier, Ph.D.², and Jeff Collmann, Ph.D.³
¹ Stanford University, Stanford, CA 94305
² Kaiser Permanente, Lafayette CA 94549
³ Georgetown University Medical Center, Washington, DC 20057

2:30
Reducing the Cost of Delivering Health Globally–An Intellectual Property Perspective
Djims Milius
University of Sheffield, Sheffield, South Yorkshire
S10 1FL, United Kingdom

2:45
Ethical Implications of Neural Repairs Using MEMS Technologies
Warren Grundfest¹ M.D., FACS, and Andrea Scott² Esq., J.D.
¹ UCLA, Los Angeles, CA 90024
² Bioethics USA Inc., Los Angeles, CA 90077
3:00 Whose Ethical Standard is it Anyway?  
Shun-liang (Steven) Hsu, Ph.D.  
National Chung-Hsing University, Taichung, 402, Taiwan

3:15 “Converging NBIC Technologies for Improving Human Performance” A Critical Assessment of the Novelty and the Prospects of the Project  
Bert Gordijn, Ph.D.  
Radboud University Nijmegen Medical Centre, Nijmegen, 6500 HK, Netherlands

3:30 – 4:00pm Coffee Break

4:00 – 5:00pm Keynote Address:  
Biomedical Engineering in a Complex Ethical Environment: Are You Prepared to Lead?  
Gregory L. Eastwood, M.D.  
Interim President  
Case Western Reserve University  
Cleveland, OH 44106

5:00 – 6:30pm Clinical Trials & Animal Experimentation: Ethical Issues  
Co-Chairs Kathleen Powderly, CNM, Ph.D. and Susan Pugliese, R.N., D.D.S.  
SUNY Downstate Medical Center, Brooklyn, NY 11203

5:00 Regulations Encourage the Ethical use of Animals in Biomedical Engineering Research  
Jafar Vossoughi, Ph.D.¹ and John W. Karanian, Ph.D.²  
¹ Biomed Research Foundation, Olney, MD 20832  
² CDRH, USFDA, Laurel, MD 20708

5:15 The Need for Animal Models in Biomedical Research  
Ajay Kashi, B.D.S., M.S., and Subrata Saha, Ph.D.  
SUNY Downstate Medical Center, Brooklyn, NY 11203

5:30 Ethical Issues in Clinical Trials with Human Tissue Engineered Products  
Helena Trommelmans, M.A., M.Sc., Joseph Selling, Ph.D., and Kris Dierickx, Ph.D.  
Katholieke Universiteit Leuven, Leuven, B-3000, Belgium

5:45 The Need for Regulatory Reform in Protecting the Viability and Entrepreneurship of Small Businesses in America  
R.W. Christensen, DDS, FAIMBE  
TMJ Implants Incorporated, Golden, CO 80401
6:00 Ethical Problems of Clinical Trials of the Socially Important Drugs in the Republic of Kazakhstan
K.B. Murzagulova and M.E. Kim
“Romat” Pharmaceutical Limited Company, Pavlodar City, 140011, Kazakhstan

6:15 Animal Experimentation and Clinical Trial of Guided Tissue Regeneration Membrane
S. Pal¹, Ph.D., Sheba Rani¹, M.E., S. K. Bhandari², T.K.Pal³, Ph.D., and S. N. Chakraborthy⁴, Ph.D.
¹ Jadavpur University, India
² Dental Surgery Department, INMAS, Delhi, India
³ Guru Nanak Institute of Dental Sciences & Research, Kolkata, India
⁴ Indian Institute of Chemical Biology, India

7:00pm Banquet
The New York Marriott at the Brooklyn Bridge

Sunday, April 22, 2007
Dibner Auditorium, Polytechnic University, 5 MetroTech Center, Brooklyn, NY 11201

8:00 – 9:00am Keynote Address: Research Ethics in Biomedical Engineering
William Hendee, Ph.D.
Distinguished Professor of Radiology, Radiation Oncology, Biophysics and Community and Public Health Medical College of Wisconsin, Milwaukee, WI 53226

9:00 - 10:00am Panel Discussion
University Industry Relationships: Ethical Challenges

Co-Chairs
M. Guven Yalcintas, Ph.D.
SUNY Research Foundation, Albany, NY 12201
TBA

Panel Members
Randall L. Barbour, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203
William Mihalko, M.D., Ph.D.
University of Virginia, Charlottesville, VA 22901
Subrata Saha, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203
10:00–10:30am  Coffee Break

10:30–12:15pm  Ethical Issues in Stem Cells and Genetics Research

**Co-Chairs**
- Uma G. Gupta, Ph.D.
  SUNY Brockport, Brockport, NY 14420
- John Allen
  SUNY Downstate Medical Center, Brooklyn, NY 11203

10:30  Ethics of Alternatives to the Use of Spare Embryos for Developing Embryonic Stem Cell Lines
  Thomas F. Budinger, M.D., Ph.D., and Miriam D. Budinger, M.D.
  University of California, Berkeley, Berkeley, CA 94720

10:45  Proceedings of Embryonic Stem Cells Regulations in Taiwan
  Shun-liang (Steven) Hsu, Ph.D.
  and Chao-Han Huang, M.A.
  National Chung-Hsing University, Taichung, 402, Taiwan

11:00  Human reproductive cloning: Should we if we could?
  Udo Schuklenk, Ph.D.
  Glasgow Caledonian University, Glasgow G4 0BA, United Kingdom

11:15  Stem Cells in Medicine: Applications and Concerns
  Martin Bluth, M.D., Ph.D.
  SUNY Downstate Medical Center, Brooklyn, NY 11203

11:30  Genetic Exceptionalism and the Metaphor of the Plan
  Mark Greene, B.V.Sc, Ph.D.
  University of Delaware, Newark, DE 19716

11:45  Preimplantation Genetic Diagnosis and the Course of Social Justice
  Tim Krahn, Ph.D.
  Dalhousie University Halifax, Nova Scotia B3H 3P7, Canada
12:00  The Restoration of Brain Function Using Stem Cells: Issues to Consider
       Andrea Scott¹ Esq., J.D., and
       Warren Grundfest² M.D., FACS
       ¹ Bioethics USA Inc., Los Angeles, CA 90077
       ² UCLA, Los Angeles, CA 90024

12:15–1:30pm  Panel Discussion & Lunch
       Need for Tort Reform: An Ethical Imperative
       Co-Chairs: Robert W. Christensen, D.D.S, FAIMBE
                   TMJ Implants Incorporated, Golden, CO 80401
                   Subrata Saha, Ph.D.
                   SUNY Downstate Medical Center, Brooklyn, NY 11203

       Panel Members Dane Miller, Ph.D.,
                   Biomet Inc. Warsaw, IN 46582
                   Kuan-Ting Chi, LL.M, M.A.
                   University of Sheffield, Sheffield,
                   South Yorkshire S10 1GR, United Kingdom
                   Stanley Gordon, M.D.
                   SUNY Downstate Medical Center, Brooklyn, NY 11203
                   Alice Herb J.D., LLM,
                   SUNY Downstate Medical Center, Brooklyn, NY 11203

1:30–2:45pm  Biomedical Ethics Education
       Co-Chairs Dawn Morton Rias, Ed.D, PA-C
                   SUNY Downstate Medical Center, Brooklyn, NY 11203
                   Harold P. Sjursen, Ph.D.
                   Polytechnic University, Brooklyn, N.Y. 11201

1:30  In Defence of Professional Ethics for the Biomedical Sciences
       Niall W.R. Scott, Ph.D.
       University of Central Lancashire, Preston, Lancashire
       PR1 2HE, United Kingdom

1:45  Methods for Teaching Ethics and Tools for Resolving Dilemmas
       Thomas F. Budinger, M.D., Ph.D. and
       Miriam D. Budinger, M.D.
       University of California, Berkeley, Berkeley, CA 94720
### Ethical Challenges Arising from Dealing with Creationist Students in Biomedical Engineering
Howard Winet, Ph.D.
UCLA, Los Angeles, CA 90007

### A Brief History of Bioengineering Ethics
Jerry C. Collins, Ph.D.
Vanderbilt University, Nashville, TN 37235

### Teaching Ethics Across the Curriculum
Joanne S. Katz, P.T., D.P.T., Ph.D. and
Mark L’Eplattenier, M.P.A.S., R.P.A-C
SUNY Downstate Medical Center, Brooklyn, NY 11203

### Coffee Break
2:45 – 3:15pm

### Ethical Issues in Biomedical Engineering

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<thead>
<tr>
<th>Co-Chairs</th>
<th>University</th>
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<tr>
<td>Wade Robinson, Ph.D.</td>
<td>Rochester Institute of Technology, Rochester, NY 14623</td>
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<tr>
<td>Warren Grundfest M.D., F.A.C.S.</td>
<td>UCLA, Los Angeles, CA 90024</td>
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### Use of Implantable Radiofrequency Identification Tags in Humans
Kenneth R. Foster, Ph.D. and Jan Jaeger, Ph.D.
University of Pennsylvania, Philadelphia, PA 19104

### Ethical Considerations in the Biomedical Patent Grant
Anthony F. LoCicero, Esq., J.D., and
Michael P. Kenney, Esq., M.S., J.D.
Amster Rothstein & Ebenstein, LLP,
New York, NY 10016

### Is Tort Reform a Placebo?
W. Ross Scott, Esq., J.D.
W. Ross Scott Law Firm, Andover, NY 14806

### Is Apollo Fading? Industry, Government and the Hippocratic Oath: An Orthopaedic Surgeon’s Viewpoint
Larry Bowman, M.D.
Blue Ridge Orthopaedics, Clemson, SC 29678

### Challenges Including Ethics in Evaluating Human Impact Injury Tolerance
A. Deb, Ph.D.¹ and C.C. Chou²
¹Indian Institute of Science, Bangalore 560012, India
²Wayne State University, Detroit, MI 48201
4:30  A Call to Systematically Evaluate Medical Devices
Abraham P. Schwab, Ph.D.
Brooklyn College – CUNY, Brooklyn, NY 11210

4:45  Free Inquiry, Democracy, and Bioscience
Austin Dacey, Ph.D.
Center For Inquiry, New York, NY 10020

5:00  Ethical Issues in Pharmacogenomic Research
M. Joshi\(^1\), A. Deb\(^2\), and S.R. Shankapal\(^3\)
\(^1\) M.S. Ramaiah Medical College, Bangalore 560054, India
\(^2\) Indian Institute of Science, Bangalore 560012, India
\(^3\) M.S. Ramaiah School of Advanced Studies, Bangalore 560054, India

5:15  Guidelines for Authorship
Pamela Saha, M.D., Subrata Saha, Ph.D., and Susan Schwartz-Giblin, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203

5:30  Development and Marketing of Similar Medical Devices and Implants
Westley Hayes, M.S., and Subrata Saha, Ph.D.
SUNY Downstate Medical Center, Brooklyn, NY 11203
Local Program Committee

1. **Subrata Saha, Ph.D., Program Chairman,**
   Research Professor and Director of Musculoskeletal Research
   SUNY Downstate Medical Center
   Brooklyn, New York 11203.

2. **Kathleen Powderly, R.N., M.S., Ph.D.**
   Acting Director, Humanities in Medicine
   SUNY Downstate Medical Center
   Brooklyn, New York 11203.

3. **Alice Herb, J.D., LLM,**
   Clinical Assistant Professor, Humanities in Medicine
   SUNY Downstate Medical Center
   Brooklyn, New York 11203

4. **Susan Schwartz-Giblin, Ph.D.**
   Dean, School of Graduate Studies
   SUNY Downstate Medical Center
   Brooklyn, New York 11203

5. **William Urban, M.D.**
   Chairman, Department of Orthopaedic Surgery and Rehabilitation Medicine
   SUNY Downstate Medical Center
   Brooklyn, New York 11203

6. **John Allen**
   Assistant Vice President of Scientific Affairs
   SUNY Downstate Medical Center
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7. **Judith A. Ruddock**
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8. **Jim Darrow, M.A., M.S.**
   Director of Education, Department of Orthopaedic Surgery and Rehabilitation Medicine
   SUNY Downstate Medical Center
   Brooklyn, New York 11203

9. **Ellen B. Telesca, M.B.A.**
   Director of Recruitment and Liaison for the Biomedical Engineering Program
   School of Graduate Studies
   SUNY Downstate Medical Center
   Brooklyn, New York 11203

10. **Sunil Kumar, Ph.D.**
    Professor of Mechanical Engineering & Associate Provost,
    Graduate Education
    Polytechnic University
    Brooklyn, New York 11201
This conference is jointly sponsored by SUNY Downstate Medical Center and Polytechnic University.

We wish to thank the following for their support:

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  School of Graduate Studies
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American Institute for Medical and Biological Engineering (AIMBE)
Engineering in Medicine & Biology Society (IEEE/EMBS)
City College of New York
New York Academy of Sciences

Financial support has been received from:

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