

ARUP K. CHAKRABORTY

PERSONAL

Born, November 26, 1961; U.S. Citizen; married to Dr. Sharmila Chatterjee

CURRENT POSITION

John M. Deutch Institute Professor; Professor of Chemical Engineering, Physics, & Chemistry, Core faculty member and former Founding Director, Institute for Medical Engineering & Science, MIT.

Founding Steering Committee Member, Ragon Institute of MGH, MIT, & Harvard.

CONTACT INFORMATION

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RESEARCH INTERESTS

Statistical Mechanics, Molecular and Cellular Immunology, Immune response to mutable viruses (HIV, Influenza, SARS-CoV-2), Vaccine development, Transcriptional condensates.

EDUCATION

Postdoctoral Fellow, University of Minnesota, 1987-1988; Ph.D., Chem. Eng., University of Delaware, 1988; Bachelor of Technology, Chem. Eng., IIT, Kanpur, 1983.

AWARDS AND HONORS

- Miegunyah Distinguished Visting Fellow, University of Melbourne and Peter Doherty Institute (awarded 2023)
- James Swan Outstanding Graduate Faculty Award, Chemical Engineering Department, MIT (2023)
- Gubbins Lecture, North Carolina State University (2023)
- Doctor of Science, *honoris causa*, University of Chicago (2023)
- Max Delbruck Prize in Biological Physics, American Physical Society (2023)
- Doctor of Science *honoris causa*, University of Delaware (2022)
- Named Institute Professor at MIT (2021)
- Outstanding Graduate Teaching Award, Chemical Engineering Department, MIT (2021)
- John M. Prausnitz Institute Lecturer, American Institute of Chemical Engineers (2021)
- Elected, Foreign Fellow of the Indian National Academy of Engineering (2021)
- Closs Lecture, University of Chicago (2021)
- Schiesser Distinguished Lecture, Lehigh University (2020)
- Outstanding Graduate Teaching Award, Chemical Engineering Department, MIT (2020)
- Inaugural annual IMES Founder's Lecture (2019)
- Doctor of Engineering *honoris causa*, Hong Kong University of Science & Technology (awarded 2019, conferred 2020)
- Guggenheim Fellowship (2018)
- Moore Distinguished Scholar, Caltech (2018)

- Elected, Member of the National Academy of Medicine (2017)
- Arthur D. Little Lectures, MIT (2017)
- Elected, Member of the National Academy of Sciences (2016)
- Richard S. Mah Lectures, Northwestern University (2016)
- Berman Memorial Lectures in Medical Physics, George Washington University (2014)
- Weaver Lectures in Biophysics, UC Davis (2014)
- David Ollis Lectures in Chemical Engineering, NC State University (2013)
- Britton Chance Lectures in Engineering & Medicine, University of Pennsylvania (2012)
- Outstanding Graduate Teaching award, Chemical Engineering department, MIT (2012)
- Bayer Lectures, University of Pittsburgh (2012)
- Lacey Lectures, Caltech (2011)
- Katz Lectures, CCNY (2010)
- Raman Memorial Lectures, Kolkata, India (2009)
- Outstanding Graduate Teaching award, Chemical Engineering department, MIT (2009)
- Elected Fellow, American Association for the Advancement of Science (2008)
- Distinguished Alumnus Award, Indian Institute of Technology-Kanpur (2008)
- Elected, Fellow of the American Academy of Arts and Sciences (2007)
- E.O. Lawrence Award for Life Sciences, DOE (2007)
- NIH Director's Pioneer Award (2006)
- Presidential Citation for Outstanding Achievement, University of Delaware (2005)
- Wilber Lecture, Rice University (2005)
- Doraiswamy Lecturer, Iowa State Univ. and National Chemical Laboratory, India (2005)
- Dept. of Chem. Eng. Teaching Award, UC Berkeley (2005)
- Engineering Foundation Endowed Lectureship, U.T. Austin (2005)
- Elected, Member of the National Academy of Engineering (2004)
- Professional Progress Award, American Institute of Chemical Engineers (2004)
- Merck Collaboratus Lectures, Rutgers University (2004)
- Trotter Lecturer, University of Tennessee, Knoxville (2004)
- Chemcon Distinguished Lecturer Award, Bhubaneswar, India (2003)
- Robert W. Vaughan Memorial Lecturer, Caltech (2000)
- Research Professor, Miller Institute for Basic Science, Berkeley (1999-2000)
- Featured Speaker, NAE Frontiers of Engineering Meeting (1999)
- Allan P. Colburn Award, American Institute of Chemical Engineers (1996)
- Camille Dreyfus Teacher-Scholar Award (1994)
- AIChE, Berkeley Student Chapter, Appreciation for Distinguished Teaching (1996-97)
- National Young Investigator Award (1992-1997)
- Allan P. Colburn Memorial Lecture, University of Delaware (1993)
- Royal Academy of Engineering (U.K.), ICI Fellowship (1993- 1998)
- Shell Young Faculty Fellow (1989-1992)
- Best Review Paper, Intl. Conference on Polymer/Solid Interfaces, Belgium (1991)

PROFESSIONAL EXPERIENCE

University of California at Berkeley

Assistant Professor of Chemical Engineering (Dec 1988 - June 1993)

Associate Professor of Chemical Engineering (July 1993 - June 1997)

Professor of Chemical Engineering and Professor of Chemistry (July 1997-June 2001)

Warren and Katherine Schlinger Distinguished Professor, Chair of Chemical Engineering, Professor of Chemistry, Member of Biophysics Graduate Group (July 2001 – April 2005).

Professor of Chemical Engineering, Professor of Chemistry, and Member of Biophysics Graduate Group, Head, Computational and Theoretical Biology department, LBNL (April 2005 – June 2005).

Massachusetts Institute of Technology

Robert T. Haslam Professor of Chemical Engineering, Chemistry (2005 – 2021); added to the Physics faculty (2012); Biological Engineering (2005 – 2018).

Founding Director, Institute for Medical Engineering and Science (2012 – 2018);

Institute Professor, Professor of Chem Eng, Physics, & Chemistry, Core Faculty Institute for Medical Engineering & Science (2021 – 2023).

John M. Deutch Institute Professor, Professor of Chem Eng, Physics, & Chemistry, Core Faculty Institute for Medical Engineering & Science (2023 – present).

Founding member and steering committee member, Ragon Institute of MGH, MIT, & Harvard (2009 – present).

PROFESSIONAL SERVICE

Service to the Nation:

Member, Defense Science Board, US Department of Defense (2013 – 2021).

Member, Advisory Board, Lincoln Laboratory, a DOD laboratory (2022 – present).

Member, Defense Science Board Task Force on Biology (2023 – present).

Member, Subcommittee of the Defense Science Board on Threat Reduction (2023-present)

Member, Bioresilience Advisory Board, Lawrence Livermore National Laboratory (2023-present).

Editorial boards:

Senior Editor: *eLife*, 2016-2019; Board of Reviewing Editors: *eLife*, 2014 - 2016;

Editorial Board: *Biophysical Journal*, 2007 – 2010; Editorial Board: *Annual Reviews of Physical Chemistry*, 2007-2012; Editor-in-Chief: *Advances in Chemical Engineering*, 2001-2003.

National Academy panels:

National Academy of Engineering, Draper prize committee (2014-2017); Member, Peer Committee for Section 3 (2015-2018); Chair, NRC panel that produced the report, “Inspired by Biology: from molecules to materials to machines”.

American Academy of Arts & Sciences, Chair, Class I (2012 – 2017), Chair, Class I, section V on engineering sciences (2009 – 2017).

Scientific advisory boards:

Scientific Advisory Board member for the Molecular Foundry at Lawrence Berkeley National Laboratory (2007-2012).

Camille and Henry Dreyfus Foundation, Reviewer, 2012 – 2020; Advisor, 2016-present.

Member, Scientific Advisory Board, Consultant, Repertoire Immune Medicines, 2018-2021.

Member, Scientific Advisory Board, Omega Therapeutics, 2018-2021.

Member, Scientific Advisory Board, Dewpoint Therapeutics, 2018-2021.

Consultant and Member Board of Strategic Advisors, Apriori Bio (a Flagship Pioneering company), 2021 – present.

Consultant (titled, Academic Partner), Flagship Pioneering, 2021 – present.

Consultant and Scientific Advisory Board Member, Metaphore Bio (a Flagship Pioneering company), 2021 – present.

National Institutes of Health:

Member, NIH study sections.

Wellcome Trust

Member, Board of Governors of this UK-based philanthropy, 2021 – present.

Bodossaki Foundation

Excellence Award Committee (2022 – present)

Past visiting committees and memberships:

1] University of Southern California, Chemical Engineering Department 2] University of California, Santa Barbara, Chemical Engineering Department 3] Lehigh University, Chemical Engineering Department 4] Hong Kong University of Science & technology - Advisory Board for Department of Chemical and Biological Engineering (body never met); International Review Board and Academic Advisor for School of Engineering (body met once); Review board of interdepartmental program office (body met once); Visiting Member/Senior Fellow, Institute for Advanced Studies 5] Associate Member, Broad Institute. 6] 4] University of Delaware, Chemical Engineering Department.

Present Advisory Board

Johns Hopkins University, External Advisory Board, Biophysics Department, 2023 – present)

PUBLICATIONS AND INVITED LECTURES

Over 230 publications and 470 invited lectures; 1 co-authored book; 1 edited book.

PUBLICATIONS

<https://chakrabortygroup.mit.edu/publications/>

MAGAZINE OP/ED:

“Another pandemic is coming: will we be ready”, with J. Gruber,

<https://www.newsweek.com/another-pandemic-coming-will-we-ready-opinion-1504207>

BOOKS:

1] A.K. Chakraborty, A.S. Shaw, “Viruses, Pandemics, and Immunity”, MIT Press, Cambridge (2020/2021).

2] Edited Book: “Molecular Modeling and Theory in Chemical Engineering”, Academic Press, San Diego (2001).

INVITED LECTURES

478. A.K. Chakraborty, “The Antibody Response to Vaccination”, student-invited seminar, Physics Department, Brandeis University, March (2024).
477. A.K. Chakraborty, “Statistical Mechanics of the Antibody Response to Vaccination”, invited lecture delivered at the Rutgers Statistical Mechanics meeting, Rutgers University, December (2023).
476. A.K. Chakraborty, “The Antibody Response to Repeated Vaccination”, invited lecture at the 10th anniversary of Stanford’s Computational and Systems Immunology PhD Program, Stanford, October (2023).
475. A.K. Chakraborty, “The Evolution of Antibody Responses Upon Vaccination”, Molecular Biophysics student invited seminar, University of Colorado, Boulder, October (2023).
474. A.K. Chakraborty, “The Evolution of Antibody Responses Upon Vaccination”, Biophysics seminar, Princeton University, Princeton, September (2023).
473. A.K. Chakraborty, “The Antibody Response to Repeated Vaccination”, seminar delivered virtually to CHAVD (Duke), Duke University, August (2023).
472. A.K. Chakraborty, “The Antibody Response to Highly Mutable Viruses”, invited talk at Mark Davis’ 40th Lab Anniversary symposium, Stanford University, Stanford, June (2023).
471. A.K. Chakraborty, “The Evolution of Antibody Responses Upon Vaccination”, invited seminar delivered at Metaphore, Cambridge, June (2023).
470. A.K. Chakraborty, “The Antibody Response to Highly Mutable Viruses”, invited talk at Pablo Debenedetti 70th birthday symposium, Princeton University, Princeton, June (2023).
469. A.K. Chakraborty, “The Evolution of Antibody Responses Upon Vaccination”, Keynote Lecture, Quantitative Biology meeting, Brandeis University, Waltham, June (2023).
468. A.K. Chakraborty, “The Evolution of Antibody Responses Upon Vaccination”, Kennedy Institute, University of Oxford, Oxford, UK, April (2023).

467. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, Computational Biology Seminar, University of Pittsburgh, Pittsburgh, April (2023).
466. A.K. Chakraborty, “Dewdrops on the Genome”, Gubbins Lecture, Department of Chemical Engineering, North Carolina State University, Raleigh, March (2023).
465. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, Gubbins Lecture, Department of Chemical Engineering, North Carolina State University, Raleigh, March (2023).
464. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, Max Delbruck Prize Lecture, American Physical Society Meeting, Las Vegas, March (2023).
463. A.K. Chakraborty, “The Antibody Response to Mutable Viruses”, Biophysics seminar, Rockefeller University, New York, February (2023).
462. A.K. Chakraborty, “Why do three doses of COVID vaccines confer better protection against mutants compared to two doses?”, invited lecture delivered virtually at the CHAVD (Scripps) annual meeting, La Jolla, February (2023).
461. A.K. Chakraborty, “The Antibody Response to Mutable Viruses”, Berkeley, invited lecture at the Gordon Research Conference on Physical Virology of Viruses, Lucca, Italy, January (2023).
460. A.K. Chakraborty, “The Antibody Response to Mutable Viruses”, David Chandler Keynote Lecture at the Mini Statistical Mechanics meeting, Berkeley, January (2023).
459. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, seminar delivered at the Department of Physics, Boston University, Boston, September (2022).
458. A.K. Chakraborty, A set of 5 Lectures at the Summer School and Conference on Physical Concepts in Immunology, Cargese, France, August (2022).
457. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, invited lecture to the Board of Directors, Leidos, Reston (VA), July (2022).
456. A.K. Chakraborty, “Viruses, Immunity and Vaccines”, Mathematical Physics seminar, Rutgers University (delivered on line), New Brunswick, July (2022).
455. A.K. Chakraborty, “Antibody Evolution”, invited lecture delivered virtually at the International Workshop on Dynamics of Immune Repertoires, Dresden, Germany, July (2022).
454. A.K. Chakraborty, “Non-equilibrium regulation of transcriptional condensates”, lecture at the International Summer School and Workshop on Genome Architecture and Function, Cambridge, MA, July (2022).

453. A.K. Chakraborty, “The convergence of mechanistic modeling, learning algorithms, and experimental and clinical studies in immunology”, invited lecture at the The Future of the Physics of Life conference, Amsterdam, Netherlands, May (2022).
452. A.K. Chakraborty, “Transcriptional Condensates – what does this have to do with lymphocyte signaling”, invited special lecture at the EMBO conference on Antigen Receptor Signaling, Siena, Italy. May (2022).
451. A.K. Chakraborty, “Transcriptional Condensates”, invited talk at virtual Condensate Colloquium Series, May (2022).
450. A.K. Chakraborty, “Viruses, immunity and vaccines”, invited lecture, Nir Friedman memorial Symposium, Weizmann Institute, Rehovot, Israel, April (2022).
449. A.K. Chakraborty, “Viruses, immunity and vaccines”, Widely Applied Mathematics seminar, Harvard University, Cambridge, April (2022).
448. A.K. Chakraborty, “Viruses, immunity, and vaccines”, invited lecture at the American Physical Society meeting, Chicago, March (2022).
447. A.K. Chakraborty, “Viruses, immunity, and vaccines”, seminar delivered in the Department of Chemical Engineering, University of British Columbia, Vancouver, Canada, March (2022).
446. A.K. Chakraborty, “Viruses, immunity and vaccines”, Short lecture for induction as Foreign Fellow of Indian National Academy of Engineering, By Zoom, November (2021).
445. A.K. Chakraborty, “Viruses, immunity, and vaccines”, Institute Lecture, American Institute of Chemical Engineers annual meeting, Boston, November (2021).
444. A.K. Chakraborty, “Viruses, immunity, and vaccines”, Closs Lecture, University of Chicago, Chicago, November (2021).
443. A.K. Chakraborty, “Viruses, immunity, and vaccines”, Centuri Lecture, University of Marseille, Marseille, France, October (2021).
442. A.K. Chakraborty, “Vaccines against highly mutable pathogens”, plenary lecture at the annual meeting of the Canadian Applied and Industrial Mathematics Society, Waterloo, Canada, June (2021).
441. A.K. Chakraborty, “Vaccines against highly mutable pathogens”, invited lecture at the workshop on Pandemics, Aspen Center for Physics, Aspen, June (2021).
440. A.K. Chakraborty, “Regulation of transcriptional condensates”, invited lecture at the conference on Phase Separated Systems in the Nucleus, India, April (2021).

439. A.K. Chakraborty, “How to hit HIV where it Hurts: from Statistical Physics to Monkeys”, invited lecture at the virtual Les Houches Physics meeting on Immunophysics, Les Houches, March (2021).
438. A.K. Chakraborty, “Understanding the Immune system for better vaccines: A crossroad of physics, biology and medicine”, Engineering in Medicine and Biology Society of the Syracuse IEEE chapter, Syracuse, February (2021).
437. A.K. Chakraborty and A.S. Shaw, “Viruses, Pendemics, and Immunity”, invited lecture at the Princeton public library, Princeton, February (2021).
436. A.K. Chakraborty and A.S. Shaw, “Viruses, Pendemics, and Immunity”, invited lecture at the Royal Institution, London, February (2021).
435. A.K. Chakraborty, “Understanding the Immune system for better vaccines: A crossroad of physics and biology”, International Physics webinar, Pabna University, Bangladesh, February (2021).
434. A.K. Chakraborty, “Dewdrops on the Genome” invited lecture at Genentech, San Francisco, November (2020).
433. A.K. Chakraborty, “Understanding the Immune system for better vaccines: A crossroad of physics and biology”, invited lecture at the American Physical Society’s series on COVID-19, November (2020).
432. A.K. Chakraborty, “How to hit HIV where it hurts”, Lectures in honor of Raman, Indian Institute of Technology, Ropar, September (2020).
431. A.K. Chakraborty, “How to hit HIV where it hurts”, Schiesser Distinguished Lecture, Lehigh University, Bethlehem, September (2020).
430. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the MRSEC, Brandeis University, Waltham, August (2020).
429. A.K. Chakraborty, “Viruses, immunity & pandemics”, lecture delivered at LionTree LLC, New York, April (2020).
428. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Gladstone Institute, University of California (San Francisco), San Francisco, December (2019).
427. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Department of Immunology, University of California (Berkeley), Berkeley, December (2019).
426. A.K. Chakraborty, “Dewdrops and Genes”, invited lecture at Dewpoint Therapeutics, Boston, October (2019).

425. A.K. Chakraborty, “Germs, T cells, Dewdrops, and Genes”, inaugural IMES Founding Director’s lecture, Massachusetts Institute of Technology, Cambridge, October (2019).
424. A.K. Chakraborty, “The role of DNA in formation of transcriptional condensates”, invited lecture at the Workshop and Summer School on Genome Architecture and Dynamics, Varna (Bulgaria), July (2019).
423. A.K. Chakraborty, “Sequence Analyses Aimed toward a HIV Vaccine”, invited talk at the CECAM workshop on “Defining the mutational vulnerabilities of HIV: from statistical physics to monkeys”, Lausanne (Switzerland), June (2019).
422. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at Cue Biopharma, Cambridge, June (2019).
421. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at Genentech Corporation, San Francisco, May (2019).
420. A.K. Chakraborty, “How to hit HIV where it hurts with T cells”, invited lecture at the Rutgers Statistical Mechanics Meeting”, New Jersey, May (2019).
419. A.K. Chakraborty, “The role of phase separation in regulation of eukaryotic genes”, invited lecture at the CUNY Graduate Center workshop on Gene Control, New York, May (2019).
418. A.K. Chakraborty, “Evolving broadly neutralizing antibodies against highly mutable pathogens”, invited lecture at the workshop on the Physics of immunity and cancer, Cargese, France, April (2019).
417. A.K. Chakraborty, “How to hit HIV where it hurts”, lecture at the Distinguished Engineering seminar series, Purdue University, W. Lafayette, March (2019).
416. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Vanderbilt University Medical School, Nashville, February (2019).
415. A.K. Chakraborty, “Understanding and Harnessing immunology”, seminar delivered in the Department of Biology, MIT, Cambridge, January (2019).
414. A.K. Chakraborty, “Condensate formation at super-enhancers”, invited talk at the Banbury Center meeting on Condensates in Cell Biology, Cold Spring Harbor Lab, December (2018).
413. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Department of Immunology, University of Massachusetts Medical School, Worcester, November (2018).

412. A.K. Chakraborty, “How to hit HIV where it hurts with antibodies”, invited lecture at the AIChE meeting, Pittsburgh, October (2018).
411. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at Cogen Therapeutics, Cambridge, October (2018).
410. A.K. Chakraborty, “How to hit HIV where it hurts”, Quantitative and Structural Biology seminar delivered at the Departments of Molecular & Cell Biology and Chemistry, University of California, Berkeley, Berkeley, October (2018).
409. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Institute for Molecular Engineering, University of Chicago, Chicago, October (2018).
408. A.K. Chakraborty, “A tutorial on physical concepts and models in immunology”, invited tutorial delivered at the Physical Concepts and Computational Models in Immunology symposium, Paris (France), September (2018).
407. A.K. Chakraborty, “How to hit HIV where it hurts with T cells”, invited lecture at the “Frontiers of Immunology” Cold Spring Harbor Asia meeting, Sozhou, China, September (2018).
406. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Department of Physics, Arizona State University, Phoenix, September (2018).
405. A.K. Chakraborty, “Regulation of super-enhancers by phase separation”, invited lecture at Omega Therapeutics, Cambridge, July (2018).
404. A.K. Chakraborty, “How to hit HIV where it hurts with a whiff of aging of the immune system”, invited lecture at the Santa Fe Institute workshop on Aging and Adaptation of the immune system, Santa Fe, July (2018).
403. A.K. Chakraborty, “Computational modeling of immunological processes”, invited lecture at the American Association of Immunologists Advanced course, Boston, July (2018).
402. A.K. Chakraborty, “How to hit HIV where it hurts, with an aside on polio”, seminar delivered at the Sorbonne University (Pierre & Marie Curie campus), Paris, France, May (2018).
401. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Department of Physics, Ecole Normale Supérieure, Paris, France, May (2018).
400. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Section 29, National Academy of Sciences, Washington, DC, April (2018).

399. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Department of Chemistry, Purdue University, West Lafayette, April (2018).
398. A.K. Chakraborty, “Machine learning is not a panacea for immunology”, invited lecture at the workshop on New Methodologies for Human Immunology, Stanford University, Stanford, March (2018).
397. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the department of Biostatistics, Harvard School of Public Health, Boston, March (2018).
396. A.K. Chakraborty, “Integrating predictive computational models with experiments and clinical data”, Pathology Grand Rounds, Brigham & Womens Hospital, Boston, March (2018).
395. A.K. Chakraborty, “memory in immunology and virus populations”, invited lecture at the Kavli Institute of Theoretical Physics conference on Memory in materials and biology, Santa Barbara, February (2018).
394. A.K. Chakraborty, “How to hit HIV where it hurts”, Moore Lecture, Department of Biology, California Institute of Technology, Pasadena, January (2018).
393. A.K. Chakraborty, “How to hit HIV where it hurts”, Keynote lecture at the International conference on systems and synthetic biology for the Centennial celebration of the Bose Institute, Kolkata (India), December (2017).
392. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Blood Research Center, Milwaukee, October (2017).
391. A.K. Chakraborty, “Super-enhancers formation and function may be regulated by phase separated bodies”, Contribution to the Solvay Conference on the “Physics of living systems”, Brussels, October (2017).
390. A.K. Chakraborty, “How to hit HIV where it hurts with antibodies”, invited lecture at the Computational Biology Symposium, Lausanne, October (2017).
389. A.K. Chakraborty, “Lectures on Physical Concepts in Immunology”, 12-hour lecture series, Department of Physics, EPFL, Lausanne, October (2017).
388. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the department of Chemical Engineering, University of Houston, Houston, September (2017).
387. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Institute for Computational Medicine, Johns Hopkins University, Baltimore, September (2017).
386. A.K. Chakraborty, “Early events in T cell signaling”, FASEB conference on Lymphocyte Signaling, Snow Mass, June (2017).

385. A.K. Chakraborty, “How to hit HIV where it hurts”, Mathematical Biology symposium, University of Pennsylvania, Philadelphia, May (2017).
384. A.K. Chakraborty, “How to hit HIV where it hurts with antibodies”, Arthur D. Little Lectures, department of Chemistry, MIT, Cambridge, April (2017).
383. A.K. Chakraborty, “How to hit HIV where it hurts with T cells”, Arthur D. Little Lectures, department of Chemistry, MIT, Cambridge, April (2017).
382. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered in the Department of Chemical Engineering, South Dakota School of Mines, Rapid City, April (2017).
381. A.K. Chakraborty, “How to hit HIV where it hurts”, invited Lecture at the Society of Biological Engineering Conference, Chicago, March (2017).
380. A.K. Chakraborty, “Inducing broadly neutralizing antibodies by vaccination”, invited talk at the Mini Statistical Mechanics Meeting, Berkeley, January (2017).
379. A.K. Chakraborty, “Some problems at the intersection of the physical, life, and engineering sciences”, Keynote lecture at the Computational Medicine workshop, Institute for Advanced Studies, Hong Kong University of Science & Technology, Hong Kong, December (2016).
378. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Immunology and Vaccine Group, Beth Israel Deaconess Medical Center, Boston, November (2016).
377. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Immunology Group, NIH, Bethesda, November (2016).
376. A.K. Chakraborty, “Rational design of vaccination strategies for induction of broadly neutralizing antibodies”, plenary lecture, Keystone meeting on Rational Vaccine Design, London (UK), October (2016).
375. A.K. Chakraborty, “Some problems at the intersection of immunology and statistical physics”, invited talk at the Graduate Center, CUNY, October (2016).
374. A.K. Chakraborty, “How to hit HIV where it hurts with T cells”, the S.H. Mah Lectures, Northwestern University, October (2016).
373. A.K. Chakraborty, “How to hit HIV where it hurts with antibodies”, the S.H. Mah Lectures, Northwestern University, October (2016).
372. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at Merck Laboratories, Boston, September (2016).

371. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at symposium honoring Byron Goldstein, Santa Fe, August (2016).
370. A.K. Chakraborty, “How to hit HIV where it hurts”, student invited seminar at the Computational and Systems immunology program, Stanford University Medical School, Stanford, July (2016).
369. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at SU2C, Institute for Advanced Studies, Princeton, June (2016).
368. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Ed Palmer retirement symposium, Basel (Switzerland), May (2016).
367. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Nationwide Children’s Hospital: 3rd International Conference on Mathematics & Computational Medicine, Columbus, May (2016).
366. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Rutgers Statistical Physics conference, Rutgers, May (2016).
365. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the MIT Immunoengineering Symposium, Cambridge, May (2016).
364. A.K. Chakraborty, “How to hit HIV where it hurts”, Biophysics seminar delivered at the Rockefeller University, New York, April (2016).
363. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered in the Computational Biology department, Johns Hopkins University, Baltimore, April (2016).
362. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the Coevolution in proteins and RNA, theory and experiments Program, Institut d’Etudes Scientifiques de Cargèse, Cargèse (France), April (2016).
361. A.K. Chakraborty, “Immunization strategies that may steer affinity maturation to produce broadly neutralizing antibodies against HIV”, invited presentation at the Gates Foundation workshop on broadly neutralizing antibodies, Seattle, March (2016).
360. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Lawrence Livermore National Laboratory, Livermore, February (2016).
359. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered in the Department of Bioengineering, University of Minnesota, Minneapolis, February (2016).
358. AK. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at UT Southwestern medical School, Dallas, February (2016).

357. A.K. Chakraborty, “How to hit HIV where it hurts” plenary lecture at the Keystone meeting on Systems Immunology, Big Sky, January (2016).
356. A.K. Chakraborty, “Rational design of vaccines against highly mutable pathogens”, invited lecture at the 13th US-Japan Symposium on Drug Delivery Systems, Maui, December (2015).
355. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, invited lecture at the CABI Conference, Microsoft Corporation, Boston, December (2015).
354. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, seminar to be delivered in the Department of Bioengineering, University of Minnesota, November (2015).
353. A.K. Chakraborty, “Manipulating affinity maturation to produce broadly neutralizing antibodies”, invited lecture at the HIV Prevention and Protection conference, South Africa, November (2015).
352. A.K. Chakraborty, “How to hit HIV where it hurts with T cells and B cells”, seminar delivered at the Department of Bioengineering, Boston University, Boston, September (2015).
351. A.K. Chakraborty, “How to hit HIV where it hurts with T cells and B cells”, invited lecture at the Herman Eisen symposium, Washington University, St. Louis, October (2015).
350. A.K. Chakraborty, “How to hit HIV where it hurts” seminar delivered at the Department of Immunology, Tufts University, Boston, September (2015).
349. A.K. Chakraborty, “How to hit HIV where it hurts with T cells and B cells”, seminar delivered at the School of Engineering & Applied Science, Harvard University, Cambridge, September (2015).
348. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, seminar to be delivered at the Department of Systems Biology, UT Southwestern, September (2015).
347. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the qBio summer conference, Blacksburg, August (2015).
346. A.K. Chakraborty, “Computational models in Immunology”, invited lecture at the American Association of Immunologists Advanced Course in Immunology, Boston, August (2015).

345. A.K. Chakraborty, “Developing the fitness landscape of HIV for rational vaccine design”, invited lecture at the conference on Forecasting Evolution, Lisbon, Portugal, July (2015).
344. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, Biophysics seminar at Ecole Normale Supérieure, Paris, France, July (2015).
343. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Dunn School of Pathology, Oxford University, Oxford, UK, June (2015).: a convergence of physics, biology, & medicine
343. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, invited lecture at the D³ Conference, University of Pennsylvania, Philadelphia, May (2015).
342. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, invited lecture at the Rutgers Statistical Physics meeting, Rutgers, May (2015).
341. A.K. Chakraborty, “How to hit HIV where it hurts: a convergence of physics, biology, & medicine”, seminar delivered at the Department of Physics, MIT, Cambridge, April (2015).
340. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Institute for Transplantation and Immunity, Stanford University, Palo Alto, January (2015).
339. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at Google X Immunology Summit, Mountain View, January (2015).
338. A.K. Chakraborty, “How to hit HIV where it hurts”, seminar delivered at the Chemical Engineering Department Centennial Celebrations, University of Delaware, Newark, December (2014).
337. A.K. Chakraborty, “How to hit HIV where it hurts”, invited lecture at the AIChE meeting, Atlanta, November (2014).
336. A.K. Chakraborty, “Scaling laws describe memories of host-pathogen interactions in the HIV population”, seminar delivered at the Institute for Advanced Studies, Hong Kong University of Science & Technology, Hong Kong, November (2014).
335. A.K. Chakraborty, “How to hit HIV where it hurts”, joint immunology seminar at the Brigham & Women's Hospital and Dana Farber Cancer Institute, Boston, October (2014).
334. A.K. Chakraborty, “Analogies between HIV evolution, neural networks, and linguistics”, invited lecture at the Statistical Mechanics in Physics, chemistry, and Biology conference, Cambridge, October (2014).

333. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the CD8 Club meeting, Cambridge, October (2014).
332. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the UNH Bioengineering Conference, University of New Hampshire, Nashua, September (2014).
331. A.K. Chakraborty, "How to hit HIV where it hurts", immunology seminar delivered at Harvard Medical School, Boston, September (2014).
330. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture, CECAM Conference on Biophysics: From molecules to Cells to Organisms, Lausanne, Switzerland, August (2014).
329. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture, European Union Training Network in Computational Immunology", Gallway, Ireland, June (2014).
328. A.K. Chakraborty, "The development of a specific yet degenerate T cell Repertoire", invited lecture, European Union Training Network in Computational Immunology", Gallway, Ireland, June (2014).
327. A.K. Chakraborty, "Open problems in Immunology". invited lecture, IAS workshop on Computational Immunology, Hong Kong University of Science & Technology, Hong Kong, May (2014).
326. A.K. Chakraborty, "Inducing Broadly Neutralizing Antibodies by Vaccination". invited lecture, IAS workshop on Computational Immunology, Hong Kong University of Science & Technology, Hong Kong, May (2014).
325. A.K. Chakraborty, "How to hit HIV where it hurts", David Weaver Lectures in Biophysics, UC Davis, April (2014).
324. A.K. Chakraborty, "How to hit HIV where it hurts", Barry Bermann Lectures in Biophysics, Department of Physics, George Washington University, April (2014).
323. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Chemical Engineering, RPI, Troy, February (2014).
322. A.K. Chakraborty, "How to hit HIV where it hurts", invited talk at the Systems Immunology Conference, Santa Fe, January (2014).
321. A.K. Chakraborty, "How to hit HIV where it hurts", Ollis Lectures, NC State University, November (2013).
320. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the HIV Pathogenesis Conference, Durban, South Africa, November (2013).

319. A.K. Chakraborty, "The role of computational chemistry in Immunology", CECAM conference, Lugano, Switzerland, October (2013).
318. A.K. Chakraborty, "How to hit HIV where it hurts", Biophysics seminar delivered in the Department of Physics, Princeton University, October (2013).
317. A.K. Chakraborty, "MIT and the future of medicine and health care", invited talk at the MIT Corporation Meeting, Cambridge, October (2013).
316. A.K. Chakraborty, "How to hit HIV where it hurts", Biophysics seminar delivered in the Center for Theoretical Biological Physics, Rice University, Houston, October (2013).
315. A.K. Chakraborty, "How to hit HIV where it hurts", Biophysics seminar delivered in the Department of Physics, Brandeis University, Waltham, September (2013).
314. A.K. Chakraborty, "Computation and theory in Immunology", invited lecture at the NIH workshop on Computational Immunology, Bethesda, August (2013).
313. A.K. Chakraborty, "The T cell response to vaccination", invited lecture at the FASEB meeting on T cell signaling and response, Bahamas, June (2013).
312. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered in the Department of Immunology, Oxford University (UK), July (2013).
311. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at Symposium for Computational Immunology, Edinburgh (UK), July (2013).
310. A.K. Chakraborty, "Computational studies of the earliest events in T cell signaling", invited lecture, Annual meeting of the American Association of Immunologists, Honolulu, May (2013).
309. A.K. Chakraborty, "Determining the fitness landscape of HIV: Implications for Cancer", invited lecture at the National Cancer Institute symposium on PSOC, Phoenix, April (2013).
308. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Immunology, University of Alabama Medical School, Birmingham, April (2013).
307. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Physics, University of Pennsylvania, Philadelphia, April (2013).
306. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Immunology, University of Pennsylvania Medical School, Philadelphia, April (2013).

305. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Chemistry, University of California, Berkeley, February (2013).
304. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered to a joint session of the Department of Biology and the Department of Chemical and Biomolecular Engineering, Syracuse University, Syracuse, February (2013).
303. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the Conference on Physics of Living Systems, Cambridge, January (2013).
302. A.K. Chakraborty, "How to hit HIV where it hurts", Plenary lecture at the International Conference on Biomedical Engineering, Hong Kong, January (2013).
301. A.K. Chakraborty, "Physico-chemical concepts in immunology and virology", lectures at the Institute for Advanced Studies, Hong Kong University of Science and Technology, Hong Kong, December (2012).
300. A.K. Chakraborty, "Defining the evolutionary space of HIV", invited lecture at the Institute for Advanced Studies, HKUST, Hong Kong, December (2012).
299. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the Kavli Institute for Theoretical Physics, University of California, Santa Barbara, November (2012).
298. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the Dreyfus Foundation Annual Symposium, New York, October (2012).
297. A.K. Chakraborty, "Physico-chemical concepts in Immunology", lectures at the Department of Physics and biology, Moscow State University, Moscow, Russia, October (2012).
296. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Chemical Engineering, Colorado State University, September (2012).
295. A.K. Chakraborty, "How to hit HIV where it hurts", Britton Chance Lectures, University of Pennsylvania, Philadelphia, September (2012).
294. A.K. Chakraborty, "How to hit HIV where it hurts", lecture at Perspectives in theoretical physics summer school, Institute for Advanced Studies, Princeton, July (2012).
293. A.K. Chakraborty, "An introduction to immunology for physicists", lecture at Perspectives in theoretical physics summer school, Institute for Advanced Studies, Princeton, July (2012).
292. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at Roche Pharmaceuticals, New Jersey, June (2012).

291. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of physics, biology, engineering, and medicine", invited lecture at Stanford Systems Immunology program, Stanford, May (2012).
290. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Immunology, Stanford University, Stanford, May (2012).
289. A.K. Chakraborty, "How to hit HIV where it hurts", plenary lecture, Clinical Virology Symposium, Daytona Beach, April (2012).
288. A.K. Chakraborty, "How to hit HIV where it hurts", IAS Distinguished Lecture, HKUST, Hong Kong, April (2012).
287. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of Chemical Engineering & Materials Science, University of Minnesota, Minneapolis, April (2012).
286. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the conference on Immunodeficiency and beyond, Freiburg (Germany), March (2012).
285. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of the physical, life, and engineering sciences", Bayer Lectures, University of Pittsburgh, Pittsburgh, March (2012).
284. A.K. Chakraborty, "How to hit HIV where it hurts", Bayer Lectures, University of Pittsburgh, Pittsburgh, March (2012).
283. A.K. Chakraborty, "How to hit HIV where it hurts" NIH immunology seminar, Bethesda, March (2012).
282. A.K. Chakraborty, "The influence of the membrane on early T cell signaling", invited lecture at the Lymphocyte activation Keystone meeting, Keystone, March (2012).
281. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of the physical and life sciences", invited talk at the APS March meeting, Boston, February (2012).
280. A.K. Chakraborty. "How to hit HIV where it hurts", Life sciences seminar delivered at the EPFL, Lausanne, Switzerland, February (2012).
279. A.K. Chakraborty. "How to hit HIV where it hurts", Grand Rounds seminar delivered at the Department of Medicine, University of Basel, Switzerland, February (2012).
278. A.K. Chakraborty, "How to hit HIV where it hurts", Hong Kong Systems Biology Conference II, Hong Kong, December (2011).

277. A.K. Chakraborty, "Design of an immunogen for a HIV vaccine", seminar at the Ragon Symposium, Massachusetts General Hospital, Charlestown, November (2011).
276. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the Harvard Immunology lectures, Harvard Medical School, Boston, November (2011).
275. A.K. Chakraborty, "How T cells see antigen", seminar delivered at the Molecular Biophysics department, Indian Institute of Science, Bangalore, November (2011).
274. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the KVPY conference, Bangalore (India), November (2011).
273. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Department of chemical engineering, Ohio State University, Columbus, November (2011).
272. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the US-China chemical engineering conference, Beijing (China), November (2011).
271. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of the physical, life, and engineering sciences", Biophysics seminar delivered at University of California, San Diego, October (2011).
270. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of the physical, life, and engineering sciences", seminar delivered at the Department of Physics, University of California, San Diego, October (2011).
269. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the Welch Symposium, Houston, October (2011).
268. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the National Jewish Hospital, Denver, October (2011).
267. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture, AIChE meeting, Minneapolis, October (2011).
266. A.K. Chakraborty, "A journey from T cell signaling to the human immune response to HIV", invited lecture at the NIH Director's Pioneer Award symposium, Bethesda, September (2011).
265. A.K. Chakraborty, "The influence of the membrane environment on TCR signaling", invited lecture at the EMBO conference on signaling in T lymphocytes, Siena (Italy), September (2011).
264. A.K. Chakraborty, "A new concept in HIV vaccine design", seminar delivered at the Harvard Vaccine Center, Cambridge, August (2011).

263. A.K. Chakraborty, "How to hit HIV where it hurts", inaugural plenary lecture at ICARIS, Cambridge (U.K.), July (2011).
262. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered in the chemical engineering department, Stanford University, Stanford, May (2011).
261. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the University of Connecticut Health Science center, Hartford, May (2011).
260. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the mathematical immunology conference, Dresden, Germany, April (2011).
259. A.K. Chakraborty, "How to hit HIV where it hurts", Lacey Lecture, Caltech, March (2011).
258. A.K. Chakraborty, "Understanding adaptive immunity", Lacey lecture, Caltech, March (2011).
257. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the E. Chandler symposium, Berkeley, January (2011).
256. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of the physical, life, and engineering sciences", seminar delivered at the Center for Engineering and Medicine, University of Pennsylvania, Philadelphia, January (2011).
255. A.K. Chakraborty, "How to hit HIV where it hurts", seminar delivered at the Memorial Sloan Kettering Cancer Center, New York, January (2011).
254. A.K. Chakraborty, "Understanding adaptive immunity: from statistical mechanics to elite controllers of HIV", invited lecture at the Harvard Immunology lectures, Harvard Medical School, Boston, November (2010).
253. A.K. Chakraborty, "Understanding adaptive immunity: from statistical mechanics to elite controllers of HIV", plenary lecture at the AIChE meeting, Salt Lake, November (2010).
252. A.K. Chakraborty, "Understanding Adaptive Immunity: a crossroad of the physical, life, and engineering sciences", seminar delivered at the Department of Chemical Engineering, Indian Institute of Technology, Mumbai, India, October (2010).
251. A.K. Chakraborty, "Immunology for Physical Scientists and Engineers", short course delivered at Indian Institute of Technology, Mumbai, India, September (2010).
250. A.K. Chakraborty, "How to hit HIV where it hurts", invited lecture at the HIV Pathogenesis Program retreat, Durban, S. Africa, October (2010).

249. A.K. Chakraborty, "Understanding adaptive immunity: from thymic development to elite controllers of HIV", seminar delivered at the Department of Immunology, UT Southwestern Medical School, Dallas, October (2010).
248. A.K. Chakraborty, "Understanding Adaptive Immunity: a crossroad of the physical, life, and engineering sciences", invited video lecture, Shastra, Indian Institute of Technology, Chennai, India, September (2010).
247. A.K. Chakraborty, "Stochastic effects in Immunology", keynote lecture at the International conference on population balance models, Berlin, Germany, September (2010).
246. A.K. Chakraborty, "Understanding Adaptive Immunity: a crossroad of the physical, life, and engineering sciences", seminar delivered at the Department of Chemical Engineering, Buffalo, September (2010).
245. A.K. Chakraborty, "Immunology for Physical Scientists and Engineers", short course delivered at Boston University, Boston, September (2010).
244. A.K. Chakraborty, "Thymic selection and elite controllers of HIV", invited lecture at the International Congress of Immunology, Kobe, Japan August (2010)
243. A.K. Chakraborty, "Modeling Signaling in Lymphocytes", invited lecture at Immune modeling center short course, San Antonio, July (2010).
242. A.K. Chakraborty, "Understanding Adaptive immunity: from statistical physics to clinical data", seminar delivered at the Steele Laboratory, Mass General Hospital, Boston, June (2010).
241. A.K. Chakraborty, "Why individuals with certain genes can control HIV infections", invited lecture at the Rutgers Statistical Physics Meeting, Rutgers, May (2010).
240. A.K. Chakraborty, "Digital Signaling and Hysteresis during Ras activation in Lymphocytes", invited lecture at a workshop on Mathematical Biology, Fields Institute, Toronto, Canada, March (2010).
239. A.K. Chakraborty, "Understanding Adaptive Immunity: a Crossroad of the Physical, Life, and Engineering Sciences", Stanley Katz Lectures delivered at the Department of Chemical Engineering, City University of New York, March (2010).
238. A.K. Chakraborty, "Understanding Adaptive Immunity: a Crossroad of the Physical, Life, and Engineering Sciences", seminar delivered at the Department of Chemical Engineering, Princeton University, February (2010).
237. A.K. Chakraborty, "How T cells see antigen", invited lecture at the Keystone Symposium on T cell activation, Steamboat Springs, February (2010).

236. A.K. Chakraborty, "Understanding adaptive immunity: a crossroad of physics and biology", invited lecture at the 75th anniversary meeting of the Indian Physical Society, Kolkata, India, December (2009).
235. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of the physical, life, and engineering sciences", seminar delivered in the Department of Chemical Engineering, University of Michigan, Ann Arbor, November (2009).
234. A.K. Chakraborty, "How T cells see antigen", seminar delivered at the Broad Institute, Cambridge, November (2009).
233. A.K. Chakraborty, "How T cells see antigen: Implications for elite controllers of HIV infection", seminar delivered at the Center for Engineering and Medicine, Massachusetts General Hospital, Boston, October (2009).
232. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of physics and biology", seminar delivered at the Department of Mathematics, MIT, Cambridge, September (2009).
231. A.K. Chakraborty, "How T cells see antigen", invited lecture at the Sienna Conference on Lymphocyte signaling, Sienna, Italy, September (2009).
230. A.K. Chakraborty, "How T cells see antigen", invited lecture at the International Systems Biology Conference, Palo Alto, September (2009).
229. A.K. Chakraborty, "Digital signaling in lymphocytes", SIAM conference, Vancouver, July (2009).
228. A.K. Chakraborty, "Supramolecular complexes in immunology", invited lecture at the Gordon Research Conference on Supramolecular assemblies, New Hampshire, June (2009).
227. A.K. Chakraborty, "Origin of digital signaling and hysteresis in T cell signaling", invited lecture at the germinal center conference, Frankfurt, Germany, July (2009).
226. A.K. Chakraborty, "How T cells see antigen", Keynote address, symposium on multiscale modeling of host-pathogen interactions, Pittsburgh, July (2009).
225. A.K. Chakraborty, "How the T cell repertoire is selected and its consequences for elite controllers of HIV", invited lecture at the Ragon symposium on Computational Immunology, Cambridge, June (2009).
224. A.K. Chakraborty, "A model for genetic and epigenetic regulation of high fidelity responses to differentiation cues and stochastic outcomes of reprogramming experiments", Theory seminar, Department of Physics, University of Chicago, Chicago, June (2009).

223. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of the physical and life sciences", seminar delivered at the James Franck Institute, Department of Physics, University of Chicago, Chicago, June (2009).
222. A.K. Chakraborty, "Understanding Adaptive Immunity: A crossroad of the physical and life sciences", Raman Memorial Lectures, Kolkata, India, May (2009).
221. A.K. Chakraborty, "How the thymus designs a specific, yet degenerate, T cell repertoire", invited lecture at the George Oster Symposium, Berkeley, May (2009).
220. A.K. Chakraborty, "Origin of Digital Signaling in Lymphocytes and its Functional Consequences", invited lecture at the President's Symposium, AAI meeting, Seattle, May (2009).
219. A.K. Chakraborty, "How does our adaptive immune system see antigen", public lecture at the Santa Fe Institute, Santa Fe, April (2009).
218. A.K. Chakraborty, "Origin of digital signaling and hysteresis during T cell receptor signaling", seminar delivered at the Los Alamos National Laboratory, Los Alamos, April (2009).
217. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of physics and biology", invited lecture at the Department of Computational Biology, University of Pittsburgh, Pittsburgh, March (2009).
216. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of physics and biology", invited lecture at the American Physical Society Meeting, Pittsburgh, March (2009).
215. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of physics and biology", seminar delivered at the Rockefeller University, New York, February (2009).
214. A.K. Chakraborty, "How the Thymus designs a specific, diverse, and self-tolerant T cell repertoire", seminar delivered at the Department of Immunology, Washington University Medical School, St. Louis, February (2009).
213. A.K. Chakraborty, "A possible mechanism for signal integration during migration of T cells in lymph nodes", invited lecture at the EMBO workshop on Visualizing Immunity, Marseille, France, January (2009).
212. A.K. Chakraborty, "Understanding adaptive immunity: A crossroad of the physical, life, and engineering sciences", seminar delivered at the Department of Bioengineering, University of California, Berkeley, January (2009).

211. A.K. Chakraborty, "How the Thymus designs a specific, diverse, and self-tolerant T cell repertoire", invited lecture at the Mini Statistical Mechanics Meeting, Berkeley, January (2009).
210. A.K. Chakraborty, "Molecular Origin and functional consequences of digital signaling and hysteresis during T cell signaling", Immunology seminar, Harvard Medical School, Boston, December (2008).
209. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of the Physical, Life, and Engineering Sciences", seminar delivered at the chemical engineering department, Tufts University, December (2008).
208. A.K. Chakraborty, "How the Thymus designs the T cell repertoire", invited lecture at the Jane Coffin Childs Foundation Symposium on Computational Biology, Connecticut, October (2008).
207. A.K. Chakraborty, "Molecular Origin and functional consequences of digital signaling and hysteresis during T cell signaling", Catablanco workshop on antigen receptor signaling, Madrid, Spain, October (2008).
206. A.K. Chakraborty, "How the Thymus designs a specific, diverse, and self-tolerant T cell repertoire", seminar delivered at the Department of Immunology, University of Massachusetts Medical School, Worcester, September (2008).
205. A.K. Chakraborty, "How the Thymus designs a specific, diverse, and self-tolerant T cell repertoire", seminar delivered at the UCSF Medical School, Department of Immunology and Microbiology, October (2008).
204. A.K. Chakraborty, "Mechanistic T cell Biology: A Crossroad of Physical Chemistry and Cell Biology", invited lecture at the American Conference on Theoretical Chemistry, Chicago, July (2008).
203. A.K. Chakraborty, "How the Thymus Selects an antigen-specific T cell repertoire", invited lecture at the Telluride Conference on Biological Landscapes, Telluride, July (2008).
202. A.K. Chakraborty, "Signaling during positive and negative selection in the Thymus", invited lecture at the RCAIJSI Immunology Conference, Yokohama, Japan, June (2008).
201. A.K. Chakraborty, "How the Thymus Selects an antigen-specific T cell repertoire", invited lecture at the computational immunology workshop, Pennsylvania State University, June (2008).
200. A.K. Chakraborty, "How T cells see Antigen", invited lecture at Defense Science Research Council, Washington, DC, June (2008).

199. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of physics and Biology", invited keynote lecture at the 4th International Nanosciences Conference, Istanbul, Turkey, June (2008).
198. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of physics and Biology", invited lecture at Partners Aids Research Center, MGH, Cambridge, May (2008).
197. A.K. Chakraborty, "How T cells see antigen", seminar for the Boston Area theoretical chemistry series, Boston, April (2008).
196. A.K. Chakraborty, "Frustration and cooperative effects during selection of the T cell repertoire", invited lecture at the Cell Biophysics conference, Les Housches, France, April (2008).
195. A.K. Chakraborty, "Adaptive Immunity: A crossroad of the physical and life sciences", Distinguished Lecture Series in the Life Sciences, National Singapore University, March (2008).
194. A.K. Chakraborty, "How T cells See Antigen", invited lecture at the Biophysical Soc. Meeting, Long Beach, February (2008).
193. A.K. Chakraborty, "How T cells see Antigen", seminar delivered at the Department of Systems Biology, Harvard Medical School, Cambridge, February (2008).
192. A.K. Chakraborty, "Regulation and mis-regulation of the Adaptive Immune Response", invited lecture at the Integrative Cancer Biology Symposium, National Cancer Institute, Washington, November (2007).
19. A.K. Chakraborty, "How T cells See Antigen", invited lecture at the AIChE meeting, Salt Lake, November (2007).
190. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of the Physical, Life, and Engineering Sciences", invited lecture at the AIChE meeting, Salt Lake, November (2007).
189. A.K. Chakraborty, "Signaling in CD8⁺ T cells", invited lecture at the workshop on CD8 T cells, Amherst, October (2007).
188. A.K. Chakraborty, "Membrane-proximal Signaling in T cells", invited lecture at International Soft Matter Conference, Aachen, October (2007).
187. A.K. Chakraborty, "Fluctuation – mediated cell decisions." Invited lecture at the workshop on spatial fluctuations in biology, Amsterdam, Netherlands, September (2007).

186. A.K. Chakraborty, "How T cells See Antigen: A Crossroad of the Physical, Life, and Engineering Sciences", invited seminar at the Department of Chemical Engineering, NJIT, New Jersey, September (2007).
185. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of the Physical, Life, and Engineering Sciences", Keynote lecture at the Physical Chemistry and Chemical Engineering Symposium, Corfu, Greece, September (2007).
184. A.K. Chakraborty, "Multiscale Phenomena in the Adaptive Immune System", invited lecture at the Multiscale Methods in Biology Symposium, London, UK, September (2007).
183. A.K. Chakraborty, "How T cells see Antigen", Immunology seminar delivered at NYU Medical Center, New York, September (2007).
182. A.K. Chakraborty, "Understanding Regulation and Mis-regulation of the Adaptive Immune System", NIH Pioneer Award Symposium, Bethesda, September (2007).
181. A.K. Chakraborty, "Signaling in T cells", invited lecture at the q-Bio Cell Signaling Workshop", Santa Fe, August (2007).
180. A.K. Chakraborty, "How T cells see Antigen", lecture delivered at Biogen Idec, Cambridge, MS, July (2007).
179. A.K. Chakraborty, "Narcissism, Violence, and Self-hate in the Adaptive Immune System", Scientific Horizons Seminar, SAC Investment bank, New York, June (2007).
178. A.K. Chakraborty, "How T cells see Antigen", invited lecture at the Aegean Conference on Lymphocyte Signaling, Rhodes, Greece, June (2007).
177. A.K. Chakraborty, "Membrane-Proximal TCR Signaling", invited lecture at the Conference on Lymphocyte Signaling, Siena, Italy, May (2007).
176. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of Statistical Physics and Cell Biology", invited lecture at the Rutgers Statistical Mechanics meeting, Rutgers, May (2007).
175. A.K. Chakraborty, "How T cells See Antigen", invited lecture (by student vote) at the Chemical Biophysics Symposium, University of Toronto, Toronto, April (2007).
174. A.K. Chakraborty, "Understanding Adaptive Immunity: A Crossroad of the Physical, Biological, and Engineering Sciences", seminar delivered at the Department of Chemical Engineering, MIT, Cambridge, March (2007).

173. A.K. Chakraborty, "How T cells See Antigen: A Crossroad of Statistical Mechanics and Cell Biology", invited lecture at the Mini Statistical Mechanics Meeting, Berkeley, January (2007).
172. A.K. Chakraborty, "How T cells see Antigen", seminar delivered at the Department of Chemical Engineering, University of Rhode Island, Kingston, December (2006).
171. A.K. Chakraborty, "Understanding the Adaptive Immune Response: A Crossroad of Physics and Biology", seminar delivered at the Department of Physics, MIT, Cambridge, December (2006).
170. A.K. Chakraborty, "How T cells See Antigen", seminar delivered at the Department of Physics, Brandeis University, Waltham, October (2006).
169. A.K. Chakraborty, "T Lymphocyte Activation: A Quintessential Multi-scale modeling problem", Invited lecture at the ICBN Conference, Santa Barbara, September (2006).
168. A.K. Chakraborty, "How T cells "See" Antigen", invited lecture at the CCB ICAM workshop, Washington University, St. Louis, May (2006).
167. A.K. Chakraborty, "How T cells "See" Antigen", seminar delivered at the Division of Engineering and Applied Sciences, Harvard University, Cambridge, April (2006).
166. A.K. Chakraborty, "Models for Membrane-Proximal and Intracellular Signaling in T cells", seminar delivered at the Department of Mathematics, University of Utrecht, Netherlands, April (2006).
165. A.K. Chakraborty, "How T cells Detect Antigen", invited lecture at the Dutch Academy of Sciences Conference on Biology: From electrons to cells, Amsterdam, April (2006).
164. A.K. Chakraborty, "How T cells See Antigen", invited talk at Merrimack Pharmaceuticals, Cambridge, March (2006).
163. A.K. Chakraborty, "How T cells "See" Antigen", seminar delivered at the Biological Engineering Department:, MIT, Cambridge, March (2006).
162. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Chemical Biology and Biophysics Seminar, UCSF Medical School, San Francisco, February (2006).
161. A.K. Chakraborty, "How T cells See Antigen", invited lecture at the annual meeting of the Biophysical Society, Salt Lake, February (2006).
160. A.K. Chakraborty, "How T cells See Antigen", seminar delivered at the Department of Chemical Engineering, Lehigh University, Pennsylvania, February (2006).

159. A.K. Chakraborty, "T cell sensitivity to Antigen", seminar delivered at the Kimmell Cancer Research Institute, Thomas Jefferson University, Philadelphia, January (2006).
158. A.K. Chakraborty, "How T cells see Antigen", invited lecture at the Keystone Symposium on Lymphocyte Biology, Keystone, January (2006).
157. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Biophysics seminar delivered at Brandeis University, Waltham, December (2005).
156. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Professional Progress Award lecture, AIChE meeting, Cincinnati, November (2005).
155. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Indian Institute of Technology, Powai, India, November (2005).
154. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Doraiswamy Lecture, National Chemical Laboratory, Pune, India, November (2005).
153. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Biophysics seminar (campus-wide), Caltech, Pasadena, October (2005).
152. A.K. Chakraborty, "How T Cells Recognize Antigen", Wilber Seminar, Departments of Chemistry and Chemical Engineering, Rice University, Houston, October (2005).
151. A.K. Chakraborty, "Multiscale Models to study signal integration in T cells", invited lecture at a workshop on Multiscale Models in Biology, Snowbird, October (2005).
150. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Doraiswamy Lecture, Department of Chemical Engineering, Iowa State University, Ames, September (2005).
149. A.K. Chakraborty, "Computational Tools to Study T cell Migration Strategies", invited lecture at HHMI workshop on Lymphocyte migration, Washington D.C., September (2005).
148. A.K. Chakraborty, "Intercellular Communication in Adaptive Immunity", invited lecture at the Indian Institute of Technology, Kanpur, India, August (2005).
147. A.K. Chakraborty, "Sensors: Lessons from T cell Biology", Keynote Lecture, ICCE 12, Spain, August (2005).
146. A.K. Chakraborty, "Dendronized Polymers as Building Blocks for Nanotechnology", invited lecture at the ACS meeting, Washington D.C., August (2005).

145. A.K. Chakraborty, "The Role of Spatial Organization on T cell Signaling and Activation", invited lecture at the FASEB meeting on *Lymphocytes and the Immune System: Molecular, Cellular and Integrative Mechanisms*, Tuscon, July (2005).
144. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", invited lecture at the Rutgers Statistical Mechanics Meeting, Rutgers, May (2005).
143. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar in the Department of Chemical Engineering, Texas Tec. University, Lubbock, April (2005).
142. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar in the Department of Chemical Engineering, University of Washington, Seattle, February (2005).
141. A.K. Chakraborty, "T Cell signaling: A Spatially Organized Catalytic Reactor", invited lecture at the ACS meeting, San Diego, April (2005).
140. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar in the Department of Chemical Engineering, University of California, Santa Barbara, February (2005).
139. A.K. Chakraborty, "Can chemical engineers contribute significantly to Immunology?", seminar delivered at the 50th Anniversary of the Department of Chemical Engineering, University of Colorado, Boulder, February (2005).
138. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Engineering Foundation Endowed Lectureship, University of Texas, Austin, January (2005).
137. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered in the Department of Pathology, Washington University Medical School, St. Louis, December (2004).
136. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered in the Immunology Department, Johns Hopkins Medical School, Baltimore, November (2004).
135. A.K. Chakraborty, "Listening to Conversations between Cells in the immune System: Plenty of Room at the Bottom", invited lecture at the AIChE meeting, Austin, November (2004).
134. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered in the Department of Chemical Engineering, Stanford University, Stanford, November (2004).

133. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Physical BioSciences Division Seminar, LBNL, Berkeley, October (2004).
132. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered in the Department of Chemical Engineering, MIT, Cambridge, October (2004).
131. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Institute for Physical Science and Technology, University of Maryland, October (2004).
130. A.K. Chakraborty, "Regulation of TCR Signaling by Spatial Patterning and Localization of Molecular Components", Division of Immunology, University of California, Berkeley, September (2004).
129. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Bioinformatics and Computational Biology Series, Duke University Medical School, September (2004).
128. A.K. Chakraborty, "Spatial Patterns of Receptors can Regulate Signaling in T cells", lecture at SAMSI workshop on Computational Immunology, Duke University, September (2004).
127. A.K. Chakraborty, "Integration of In silico and In vitro Experiments to Study T cell Signaling", invited lecture at Banbury Center Workshop, Cold Spring Harbor Laboratory, September (2004).
126. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Centers for Health Research, Raleigh, September (2004).
125. A.K. Chakraborty, "How Cells in the Immune System Communicate: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered in the Department of Chemistry, U.C. Berkeley, September (2004).
124. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Dept. of Chemical and Biomolecular Engineering, University of Illinois, Urbana, August (2004).
123. A.K. Chakraborty, "Studying Intercellular Communication in the Immune System Using Statistical Mechanics", lectures delivered at the Summer School on Computational Chemistry, LLNL, Livermore, July (2004).
122. A.K. Chakraborty, "Computer Simulations in Cell Biology", invited lecture at the Computational Chemistry Gordon Conference, New Hampshire, July (2004).

121. A.K. Chakraborty, "Intercellular Communication in the Immune System: Lessons for Designing Materials for Biosensors", Third International Conference on Modeling and Simulation of Materials, Sicily (Italy), May (2004).
120. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", invited lecture at the 91st Statistical Mechanics Meeting, Rutgers, New Jersey, May (2004).
119. A.K. Chakraborty, "How T Cells Communicate with Antigen Presenting Cells", invited lecture at the Ohio State University, Institute for Computational Biology, May (2004).
118. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Biomedical Engineering Department, Johns Hopkins University, Baltimore, April (2004).
117. A.K. Chakraborty, "Communication between Membranes of Cells in the Immune System", invited lecture at the APS March Meeting, Montreal, March (2004).
116. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Merck Distinguished Lectures, Rutgers University, New Jersey, March (2004).
115. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", Trotter lectures, University of Tennessee, Knoxville, February (2004).
114. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", seminar delivered at the Department of Chemistry, Harvard University, Cambridge, February (2004).
113. A.K. Chakraborty, "Taking Lessons from Biology for Nanotechnology", invited lecture at the AIChE annual meeting, San Francisco, November (2003).
112. A.K. Chakraborty, "Biomolecular Nanomechanics", Invited lecture at the Nano engineering Symposium, ASME, Palo Alto, September (2004).
111. A.K. Chakraborty, "Sampling Catalytic Reaction Paths with Electronic Structure Calculations on the Fly", invited lecture at a CECAM workshop, Lyon, France, September (2003).
110. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", invited lecture at Institut Pierre et Marie Curie, Paris, France, September (2003).
109. A.K. Chakraborty, "How T cells Communicate with Antigen Presenting Cells", invited Lecture at the Department of Immunology, INSERM, Toulouse, France, September (2003).

108. A.K. Chakraborty, "Non-Equilibrium Phenomena at T cell/APC Junctions", keynote lecture at the Conference on Non-Equilibrium Thermodynamics, Princeton, August (2003).
107. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", invited lecture at a CECAM workshop on Cellular Recognition and Molecular Motors, Lyon, France, July (2003).
106. A.K. Chakraborty, "The Immunological Synapse is an Adaptive Controller that Balances TCR Signaling and Degradation", invited lecture at the FASEB summer meeting on Lymphocyte Biology, Tuscon, AZ, June (2003).
105. A.K. Chakraborty, "Intercellular Communication in the Adaptive Immune System", invited lecture to be delivered at the Oberwolfach Conference on Mathematical Biology, Oberwolfach, Germany, May (2003).
104. A.K. Chakraborty, "The Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Department of Chemical Engineering, University of Massachusetts, Amherst, October (2002).
103. A.K. Chakraborty, "Information Transfer at the Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Department of Chemical Engineering, University of California, Davis, October (2002).
102. A.K. Chakraborty, "Information Transfer at the Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Department of Chemical Engineering, University of Pennsylvania, Philadelphia, October (2002).
101. A.K. Chakraborty, "The Immunological Synapse: Physical Chemistry Meets Cell Biology", seminar delivered at the Department of Chemical Engineering, Rensselaer Polytechnic Institute, Troy, September (2002).
100. A.K. Chakraborty, "The Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Department of Chemistry, Georgia Institute of Technology, Atlanta, September (2002).
99. A.K. Chakraborty, "The Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Department of Chemistry, Emory University, Atlanta, September (2002).
98. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", invited lecture at the MTNS meeting, Notre Dame, August (2002).

97. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", invited lecture at the Liblice Conference on the Statistical Mechanics of Liquids, Liblice, Czech Republic, June (2002).
96. A.K. Chakraborty, "A Model for Immunological Synapse Formation", School of Medicine, Duke University, Durham, May (2002).
95. A.K. Chakraborty, "Membrane Mechanics and Cellular Recognition", invited lecture at the School on Nanoscale/Molecular Mechanics, Maui, May (2002).
94. A.K. Chakraborty, "The Immunological Synapse: A Crossroad of Physical Science and Cell Biology", Department of Physics, University of California, San Diego, April (2002).
93. A.K. Chakraborty, "The Immunological Synapse: A Crossroad of Physical Chemistry and Cell Biology", Department of Chemical Engineering, University of Missouri, Rolla, March (2002).
92. A.K. Chakraborty, "A Physical Chemist thinks about the Immunological Synapse", Department of Immunology and Pathology, Washington University School of Medicine, St. Louis, March (2002).
91. A.K. Chakraborty, "Statistical Mechanics of Immunological Synapse Formation", invited lecture at the Mini Statistical Mechanics Meeting, Berkeley, January (2002).
90. A.K. Chakraborty, "Reaction Kinetics, Membrane Physics, and Cell-Cell Recognition", invited talk at the AIChE meeting, Reno, Nevada, November (2001).
89. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Chemical Engineering Department, University of California, Riverside, October (2001).
88. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Chemical Engineering Department, Ohio State University, Columbus, October (2001).
87. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Lymphocyte Biology Laboratory, National Institutes of Health, Bethesda, September (2001).
86. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Chemical Engineering Department, University of California, Berkeley, September (2001).
85. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Levich Institute, City College of the City University of New York, New York, September (2001).

84. A.K. Chakraborty, "Immunological Synapse Formation: A Crossroad of Physical Chemistry and Cell Biology", seminar delivered at the Chemical Engineering Department, Princeton University, Princeton, September (2001).
83. A.K. Chakraborty, "Effect of TCR-MMC-peptide Binding Kinetics on Immunological Synapse Formation", America Chemical Society Meeting, Chicago, August (2001).
82. A.K. Chakraborty, "Interfacial Forces and Biopolymer Binding", American Chemical Society Meeting, Chicago, August (2001).
81. A.K. Chakraborty, "Some Mathematical Problems in Recognition", Applied Mathematics Division, Lawrence Berkeley National Laboratory, Berkeley, May (2001).
80. A.K. Chakraborty, "Synaptic Pattern Formation during Cell-Cell Recognition", A.C.S. Symposium on Colloid and Interfacial Science, Pittsburgh, PA. June (2001).
79. A.K. Chakraborty, "Macromolecules at Interfaces: Recognition in Biology and Biomimetic Systems", DOE Workshop on Challenges and Opportunities in Macromolecules at Interfaces, Santa Fe. January (2001).
78. A.K. Chakraborty, "Synaptic Pattern Formation during Cell-Cell Recognition", Department of Chemistry, Stanford Chemistry. October (2000).
77. A.K. Chakraborty, "Biomimetic Recognition between Polymers and Surfaces", U.S. China Chemical Engineering Meeting, Beijing, China. September (2000).
76. A.K. Chakraborty, "Self-Assembly Processes of Disordered Heteropolymers", Polymer Physics Gordon Conference, New London, Connecticut. July (2000).
75. A.K. Chakraborty, "Self-Assembly Processes of Disordered Heteropolymers", Northwestern University, Illinois. April (2000).
74. A.K. Chakraborty, "Self-Assembly Processes of Disordered Heteropolymers in Solution and at Interfaces", R.W. Vaughan Memorial Lectures, Caltech, Pasadena, California. April (2000).
73. A.K. Chakraborty, "Self-Assembly Processes of Disordered Heteropolymers", invited lecture to Federal Funding Agencies, Washington, DC. December (1999).
72. A.K. Chakraborty, "Biomimetic Recognition Between Polymers and Surfaces: Taking Steps Toward the Molecular Engineering of Sensors, Separation Processes, and Viral Inhibitors", featured speaker at the National Academy of Engineering, Frontiers of Engineering Meeting, Irvine, California. October (1999).

71. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Dept. of Chem. Engr., Columbia University, New York. September (1999).
70. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Dept. of Chem. Engr., University of Napoli, Napoli, Italy. September (1999).
69. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", invited talk delivered at the CECAM Workshop on Theory and Simulation of Polymers, Lyon, France. September (1999).
68. A.K. Chakraborty, "Self-Assembly Processes of Disordered Heteropolymers", invited lecture delivered at American Physical Society Meeting, Minneapolis, Minnesota. March (1999).
67. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", invited talk delivered at Michigan State, East Lansing. December (1998).
66. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", invited talk delivered at the AIChE Meeting, Miami, Florida. November (1998).
65. A.K. Chakraborty, "A Decade of Experience in Teaching Molecular Modeling at Berkeley", plenary talk delivered at the AIChE meeting, Miami. November (1998).
64. A.K. Chakraborty, "Biomimetic Recognition Between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemical Engineering, University of California, Santa Barbara. November (1998).
63. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemical Engineering, University of California, Los Angeles. November (1998).
62. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemical Engineering, Pennsylvania State, State College. November (1998).
61. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemical Engineering, Stanford University, Stanford. October (1998).
60. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemical Engineering, University of Illinois, Urbana. October (1998).

59. A.K. Chakraborty, "Biomimetic Recognition between Random Heteropolymers and Multifunctional Surfaces", seminar delivered at the Department of Chemistry, University of California, Berkeley. September (1998).
58. A.K. Chakraborty, "Random Heteropolymer Adsorption", seminar delivered at the Department of Chemistry, University of Wisconsin, Madison. April (1998).
57. A.K. Chakraborty, "Interfacial Thermodynamics of Random Heteropolymers", invited paper at the ACS meeting, Dallas, Texas. April (1998).
56. A.K. Chakraborty, "Adsorption of Random Heteropolymers on Multifunctional Disordered Surfaces: Recognition Due to Statistical Pattern Matching", invited paper at the March meeting of the APS, Los Angeles, California. March (1998).
55. A.K. Chakraborty, "Field - Theoretic Modeling of Random Heteropolymers", invited lecture at the ACS workshop on Polymer Modeling, Isle of Palms, South Carolina. March (1998).
54. A.K. Chakraborty, "Molecular Modeling of Polymers and Adsorption", keynote lecture at the NSF workshop on Quantum Chemistry and Molecular Simulations: Fundamentals and Applications, Arlington, Virginia. November (1997).
53. A.K. Chakraborty, "Statistical Pattern Matching Between Random Heteropolymers and disordered Surfaces", invited lecture at the ACS regional meeting, Irvine, California. October (1997).
52. A.K. Chakraborty, "Gianni Astarita: The Scientist and the Man", invited lecture at the Astarita Memorial Symposium, University of Delaware, Newark, Delaware. October (1997).
51. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", invited lecture at the Dow Chemical Company, Midland, Michigan. August (1997).
50. A.K. Chakraborty, "NO_x Decomposition in Cu-ZSM-5: Computational Studies", invited paper delivered at the ACS Meeting, San Francisco, California. April (1997).
49. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at North Carolina State University, Raleigh, North Carolina. February (1997).
48. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at Carnegie Mellon University, Pittsburgh, Pennsylvania. December (1996).

47. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the University of Massachusetts, Polymer Science, Amherst, Massachusetts. November (1996).
46. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the University of Michigan, Ann Arbor, Michigan. November (1996).
45. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the University of Massachusetts, Amherst, Massachusetts. October (1996).
44. A.K. Chakraborty, "Random Heteropolymers Near 2-D and 3-D Random Manifolds", invited paper at the European Polymer Federation Meeting, Crete, Greece. October (1996).
43. A.K. Chakraborty, "Theoretical Studies of Polymer-Solid Interfaces", seminar delivered at the Wilton Research Center, ICI - Polyester, U.K. October (1996).
42. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the Johns Hopkins University, Baltimore, Maryland. September (1996).
41. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the University of California, Berkeley, California. August (1996).
40. A.K. Chakraborty, "Electronic Structure and Adsorption Behavior of ZSM-5 Zeolites: Computational Studies", invited lecture delivered at the Catalysis Gordon Conference, New Hampshire. June (1996).
39. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the University of California, Los Angeles, CA. March (1996).
38. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at CCNY, New York. March (1996).
37. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at Polytechnic University, New York. March (1996).
36. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at Princeton University, Princeton, N.J. February (1996).
35. A.K. Chakraborty, "Interfacial Behavior of Random Heteropolymers", seminar delivered at the Polymer Processing Science and Technology Program, MIT, Cambridge, MA. February (1996).
34. A. K. Chakraborty, "Adhesion of Random Block Copolymers to Metal Surfaces", invited paper at the MRS meeting, San Francisco, CA. April (1995).

33. A.K. Chakraborty, "Engineering Research, Teaching and Innovation in 2020: The Impact of Advances in Computer Technology", invited lecture at the EPIIC Conference, Boston. MA. March (1995).
32. A.K. Chakraborty, "Polymers near Strongly Interacting Surfaces: Effects of Chain Architecture, and Implications for Adhesion", seminar delivered at the Massachusetts Institute of Technology, Cambridge, MA. September (1994).
31. A.K. Chakraborty, "Polymers near Strongly Interacting Surfaces: Effects of Chain Architecture, and Implications for Adhesion", seminar delivered at Tulane University, New Orleans, LA. September (1994).
30. A.K. Chakraborty, "Polymer-Metal Interfaces: Taking Steps toward the Molecular Design of Adhesives", invited lecture at the Gordon Research Conference on Adhesion Science and Technology, Tilton School, NH. August (1994).
29. A.K. Chakraborty, "Diffusion in Acidic Zeolites", seminar delivered at the University of Southern California, Los Angeles, CA. February (1994).
28. A.K. Chakraborty, "Diffusion in Technologically Relevant Disordered Media", Allan P. Colburn Lecture, University of Delaware, Newark, DE. October (1993).
27. A.K. Chakraborty, "Theoretical Studies of Polymer-Metal Interfaces ", ICI Research, Runcorn, U.K. October (1993).
26. A.K. Chakraborty, "Diffusion in Disordered Media: Ion Diffusion in Acidic Zeolites", seminar delivered at Purdue University, West Lafayette, IN. September (1993).
25. A.K. Chakraborty, "Theoretical Studies of the Structure and Electronic Properties of the Acidic Site in H-ZSM-5", invited paper at the American Catalysis Society Meeting, Pittsburgh, PA. April (1993).
24. A.K. Chakraborty, "Polymers on the Move at Surfaces", seminar delivered at The University of California, Los Angeles, CA. March (1993).
23. A.K. Chakraborty, "Polymers on the Move at Surfaces", seminar delivered at the Department of Chemical Engineering, California Institute of Technology, Pasadena, CA. October (1992).
22. A.K. Chakraborty, "Near- Surface Structure and Dynamics at Strongly Interacting Polymer- Solid Interfaces" seminar delivered at the IBM Almaden Research Center, San Jose, CA. June (1992).
21. A.K. Chakraborty, "Fundamental Studies toward Improved Polymer/Metal Adhesion", invited lecture at the U.S. - France Workshop on High Performance Polymers, Annecy, France. June (1992).

20. A.K. Chakraborty, "Glassy Behavior at Polymer- Solid Interfaces", invited paper at the University of California Conference on Statistical Mechanics", Los Angeles, CA. April (1992).
19. A.K. Chakraborty, "Chain Conformation and Dynamics at Strongly Interacting Polymer - Solid Interfaces", seminar delivered at Cornell University, Ithaca, NY. February (1992).
18. A.K. Chakraborty, "Near- Surface Structure and Dynamics of Polymer- Metal Interfaces", seminar delivered at the Pennsylvania State University, College Park, PA. October (1991).
17. A.K. Chakraborty, "Progress and Future Directions in the Theory of Strongly Interacting Polymer- Solid Interfaces", invited paper at the International Conference on Polymer Solid Interfaces, Namur, Belgium. September (1991).
16. A.K. Chakraborty, "Near- Surface Structure and Dynamics of Polymer - Metal Interfaces", seminar delivered at The University of California, Santa Barbara, CA. May (1991).
15. A.K. Chakraborty, "Near- Surface Structure of Polymer- Metal Interfaces", seminar delivered at the Lawrence Berkeley Laboratory, Berkeley, CA. April (1991).
14. A.K. Chakraborty, "Near- Surface Structure of Polymer- Metal Interfaces", seminar delivered at the University of Notre Dame, South Bend, IN. February (1991).
13. A.K. Chakraborty, "Near- Surface Structure of Polymer- Metal Interfaces", seminar delivered at the University of Florida, Gainesville, FL. February (1991).
12. A.K. Chakraborty, "Theoretical Studies of Polymer - Metal Interfaces", seminar delivered at the Dexter Corporation, Pittsburgh, CA. January (1991).
11. J.S. Shaffer, A.K. Chakraborty, "Energetics and Near- Surface Structure of Polymer- Metal Interfaces", invited paper at the ACS meeting, Washington, D.C. August (1990).
10. A.K. Chakraborty, "Near - Surface Structure of Polymer - Metal Interfaces" invited lecture at Air Products and Chemicals, Allentown, PA. July (1990).
9. A.K. Chakraborty, "Near - Surface Structure of Polymer - Metal Interfaces", invited poster at the Gordon Conference on Polymer Physics, Newport, RI. July (1990).
8. A.K. Chakraborty, "Near - Surface Structure of Polymer - Metal Interfaces", invited paper at the Spring Meeting of the MRS, San Francisco, CA. April (1990).

7. A.K. Chakraborty, "Organic Oligomers at Jellium Surfaces: A Density Functional Study", seminar at the Department of Chemical Engineering & Materials Science, University of Minnesota, Minneapolis, MN. August (1989).
6. A.K. Chakraborty, "Fundamental Studies of Polymer-Metal Interfaces", seminar delivered at the Raychem Corporation, Menlo Park, CA. May (1989).
5. A.K. Chakraborty, "Fundamental Studies of Polymer-Metal Interfaces", seminar delivered at the IBM Almaden research center, San Jose, CA. April (1989).
4. A.K. Chakraborty, "Theoretical Studies of Polymer-Metal Interfaces", seminar delivered at the Monsanto Chemical Company, Springfield, MA. January (1989).
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2. A.K. Chakraborty, "Substituent Effects in Amine - CO₂ Reactions: Applications to Acid Gas Separations", seminar delivered at the California Institute of Technology, Pasadena, CA. March (1987).
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INTERESTS

Professional Sports, History of Science, Photography