

# Zoltan Ligeti

## PERSONAL

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## EDUCATION

1991–1994 Ph.D., Theoretical Physics, Weizmann Institute of Science, Rehovot, Israel  
Thesis: Phenomenological applications of the heavy quark effective theory  
Advisor: Prof. Yosef Nir

1989–1991 M.Sc., Theoretical Physics, Weizmann Institute of Science, Rehovot, Israel

1986–1989 B.Sc. (equiv.), Physics, Eötvös University, Budapest, Hungary; GPA: 4.85/5

1982–1986 Fazekas Mihály High School, Budapest, special mathematics class

## ACADEMIC POSITIONS

2004–	<i>Lawrence Berkeley National Laboratory</i>	Senior Scientist
8/05–4/06	<i>MIT, Center for Theoretical Physics</i>	Visiting Research Scientist
2000–2004	<i>Lawrence Berkeley National Laboratory</i>	Divisional Fellow
1998–2000	<i>Fermi National Accelerator Laboratory</i>	Associate Scientist
1997–1998	<i>University of California, San Diego</i>	Postdoctoral Research Physicist
1994–1997	<i>California Institute of Technology</i>	Research Fellow
1990–1994	<i>Weizmann Institute of Science</i>	Research and Teaching Assistant

## RESEARCH DIRECTIONS

- Electroweak interactions, QCD, and their interface
- Heavy quark physics,  $CP$  violation
- Quark and lepton masses and mixing
- Models beyond the standard model

**PUBLICATIONS:** [Full list from INSPIRE](#) —  $h$ -index: 66 (excluding PDG, 62)

## AWARDS AND HONORS

2009– Member, Aspen Center for Physics, Trustee (2016–2022), Vice President (2022–)

2012 Fellow of the American Physical Society

2002–2005 Department of Energy Outstanding Junior Investigator Award (DOE)

2002–2005 US–Israel Binational Science Foundation: Physics of heavy hadrons (BSF, with Y. Grossman and H. Quinn)

2001–2005 US–Japan Cooperative Science: Theory of heavy flavor decays in the era of beauty factories (NSF, with I. Bigi, M. Neubert, H. Quinn, J. Rosner, M. Shifman)

1996 John A. McCone Prize Fellowship (Caltech)

1991 Graduate fellowship from the Soros Foundation

1989 National Fellowship (most distinctive award at Hungarian Universities)

### **SELECTED PROGRAM REVIEW COMMITTEE MEMBERSHIPS:**

1. Member, Scientific Advisory Board of the Institute of High Energy Physics (Austrian Academy of Sciences, Vienna, Austria, 2017 –)
2. Member, B-factory Program Advisory Committee (KEK, Tsukuba, Japan, 2012 – 2020)
3. Member, DOE High Energy Physics Advisory Panel (HEPAP, 2013 – 2016)
4. Panel member, DOE Annual Progress Review of the Lattice QCD project, 2014
5. Panel member, 2012 HEP Science and Technology Review of SLAC, June 2012
6. Panel member, numerous confidential DOE and NSF comparative reviews (2008 –)

### **SELECTED SERVICE ROLES AT BERKELEY:**

1. LBNL Snowmass Cross Cutting Steering Group (PD, NSD, ATAP, NERSC), 2020 – 2022
2. Staff Committee, LBNL Physics Division, 2006 – 2009, 2018 – 2020
3. Divisional Fellow Search Committee, LBNL Physics Division, FY 2013, 2014, 2020, 2022
4. Theory Group Leader, FY2012 – FY2018
5. Physics Planning Panel, LBNL Physics Division, 2009 – 2018
6. Theoretical Particle Physics Faculty Search Committee, UC Berkeley Physics Department, 2012 – 2013
7. Experimental Particle and Nuclear Physics Faculty Search Committee, UC Berkeley Physics Department, 2010 – 2011
8. Originated with B. Heinemann the [ATLAS–Theory lunch meetings](#), 2010 –
9. Chair, Divisional Fellow Search Committee, LBNL Physics Division, 2009 – 2010
10. Co-Chair, Deep Underground Science and Engineering Laboratory Experimental Program Study Committee (Joint study group of the Physics, Nuclear Science, and Engineering Divisions), Jan – Sep 2009, <http://www-theory.lbl.gov/~ligeti/dusel/>
11. Co-Chair, Neutrino Working Group (Joint study group of the Physics, Nuclear Science, and Accelerator and Fusion Research Divisions), Aug 2002 – Mar 2003, <http://www-theory.lbl.gov/~ligeti/nwg/>

### **GRADUATE STUDENTS ADVISED:**

- Frank Tackmann, Ph.D., 2008  
2008 – 2011, postdoc, MIT  
2011 – faculty, DESY, Hamburg, Germany
- Marat Freytsis, Ph.D., 2012  
2012 – 2015, postdoc, Harvard; 2015 – 2018, Oregon; 2019 – Rutgers

### **LBL/BERKELEY POSTDOCS mentored & collaborated with (faculty positions):**

Gilad Perez (Weizmann), Michele Papucci (Caltech), Matthew Schwartz (Harvard), Patrick Fox (Fermilab), Jesse Thaler (MIT), Joshua Ruderman (NYU), Dean Robinson (LBL)

## CONFERENCE ORGANIZATION AND WORKING GROUP LEADERSHIP:

1. Convener of the “Theory techniques for precision physics” working group for the Theory Frontier of the Snowmass 2021 Community Planning Exercise, 2020–2022.
2. International Organizing Committee, Flavor Physics & CP Violation Conference (FPCP) (Chair of IAC, 2019; Executive Committee, 2016–2019)  
[U. of Mississippi, US, 2022; Shanghai, China, 2021; Illa da Toxa, Spain, 2020; Victoria, Canada, 2019; Hyderabad, India, 2018; Prague, Czech Republic, 2017; Caltech, US, 2016; Nagoya, Japan, 2015; Marseille, France, 2014; Buzios, Brazil, 2013; Hefei, China, May 2012; Maale Hachamisha, Israel, 2011; Torino, Italy, 2010; Lake Placid, US, 2009; Taipei, Taiwan, 2008; Bled, Slovenia, 2007; Vancouver, Canada, 2006; Daegu, Korea, 2004]
3. Organizing Committee, MaryKFest, “From Charm to Strings”, Sep 2019, Berkeley.
4. Advisory Committee, KEK Flavor Factories Workshop 2019, Tsukuba, Japan.
5. Advisory Committee, Belle II Theory Interface Platform, 2014–2017.
6. Program Advisory Committee, 9th International Workshop on the CKM Unitarity Triangle (CKM2016), Nov.28 – Dec.3, 2016, Mumbai, India.
7. Co-organizer, “US-ATLAS Workshop on LHC Searches”, LBL, Jan 27 – 30, 2014.
8. Convener of the “Quark Flavor Physics” working group for “Snowmass” Community Study, 2012–2013.
9. Program Committee, Workshop on the CKM Unitarity Triangle (CKM 2012), Cincinnati, OH, Sep 2012.
10. Convener for the “Fundamental Physics at the Intensity Frontier” Workshop (DOE), Washington, DC, Sep 2011 – Feb 2012.
11. Co-organizer, Workshop on “Searches for SUSY at the LHC”, LBL, Oct 19 – 21, 2011.
12. Co-organizer, Workshop on “Implications of First LHC Data”, MIT, Cambridge, MA, Aug 10 – 13, 2010.
13. Convener, “ $CP$  violation, CKM and Rare Decays” session, ICHEP 2010, Paris, France, July 22 – 28 2010.
14. International Organizing Committee, Joint HFAG / BaBar / Belle workshop on  $|V_{ub}|$  and  $|V_{cb}|$  (Vxb 2009), SLAC, Stanford, CA, Oct 29 – 31, 2009.
15. Co-organizer, Workshop on “Physics Opportunities with the First LHC Data”, LBNL, Berkeley, CA, May 6 – 8, 2009.
16. Co-organizer, “Between the LHC and  $B$  factories” workshop at the Aspen Center for Physics, Aspen, Aug 13 – Sep 2, 2007.
17. Co-organizer, “SCET 2007 workshop”, LBNL, Berkeley, CA, Mar 29 – 31, 2007.
18. Co-organizer, “Joint SLAC/INT Workshop on Flavor Physics and QCD”, Seattle, WA, May 11–14, 2005.

19. Co-organizer, “Theory / Physics Case Session”, Super  $B$  Factory Workshop, Honolulu, HI, Jan 19 – 22, 2004.
20. Convener, “ $|V_{xb}|$  — Workshop on Semileptonic and Radiative Rare Decays”, SLAC, Stanford, CA, Dec 12 – 13, 2003.
21. Convener, “Semileptonic Decays and Sides of the Unitarity Triangle” working group, Workshop on the Discovery Potential of an Asymmetric  $B$  Factory at  $10^{36}$  Luminosity, SLAC, Stanford, CA, May – Oct 2003.
22. Co-organizer, “ $|V_{xb}|$  and  $|V_{tx}|$  — Workshop on Semileptonic and Radiative Rare Decays”, SLAC, Stanford, CA, Dec 4 – 6, 2002.
23. International Organizing Committee, “International Conference on Hyperons, Charm and Beauty Hadrons” [Vancouver, Canada, June 2002; Valencia, Spain, June 2000].
24. Co-organizer, “Flavor Physics: Standard Model and Beyond” workshop at the Aspen Center for Physics, Aspen, Aug 19 – Sep 9, 2001.
25. Convener, “Electroweak Physics: Bottom Quarks” session, Meeting of the Division of Particles and Fields of the American Physical Society, Columbus, Ohio, Aug 2000.
26. Co-organizer, Workshop on  $B$  Physics at the Tevatron: Run II and Beyond, Fermilab, Batavia, Illinois, Sep 1999 – May 2000, <https://www-theory.lbl.gov/Brun2/>.

## OTHER PROFESSIONAL SERVICE

- Chair, Selection Committee, 2020 APS J.J. Sakurai Prize in Theoretical Particle Physics (Member of the Committee in 2019)
- 2020 APS Fellows Selection Committee
- Co-originator and co-organizer, [Bay Area Particle Theory Seminar](#) (semiannual)
- Besides advising DOE and NSF, regularly requested to evaluate proposals for:
  - European Research Council (ERC)
  - Japan Society for the Promotion of Science (JSPS)
  - Samsung Science and Technology Foundation
  - US-Israel Binational Science Foundation
  - The German-Israeli Foundation for Scientific Research and Development (GIF)
  - Cottrell Scholar Award (Research Corporation for Science Advancement)
  - Swiss National Science Foundation (SNSF)
- Regular referee for Physical Review Letters, Physical Review, Physics Letters, and JHEP

## TEACHING AND LECTURE SERIES:

1. “Flavor Physics” (2 lectures)  
15th Fermilab-CERN Hadron Collider Physics Summer School (online), Aug 2020
2. “Flavor Physics: The next decades” (4 lectures)  
Invisibles 2017 Summer School, Murten, Switzerland, June 2017.
3. “Flavor Physics and  $CP$  violation” (4 lectures)  
HEP Summer School “TAE 2016”, Benasque, Spain, September 2016.
4. “Flavor Physics” (4 lectures)  
ICTP Summer School on Particle Physics, Trieste, Italy, June 2015.
5. “Flavor physics and CP Violation” (3 lectures)  
TASI 2014 Summer School, Boulder, CO, June 2014.
6. “Flavor physics: The Next Decades” (2 lectures)  
SLAC Summer Institute, Stanford, CA, July 2013.
7. “Flavor physics and CP Violation” (3 lectures)  
European School of High Energy Physics, Hungary, June 2013.
8. “Flavor physics and CP Violation” (3 lectures)  
TASI 2011 Summer School, Boulder, CO, June 2011.
9. “B Physics and Prospects” (2 lectures)  
KEK Theory Meeting on Particle Physics Phenomenology, Tsukuba, Japan, Mar 2011.
10. “Flavor physics in the next decade” (3 lectures)  
GIF School 2010, Besse-et-Saint-Anastaise, France, Sep 2010.
11. “Flavor Physics at the LHC” (2 lectures)  
Theoretical Physics School, Gyöngyöstarján, Hungary, Oct 2007.
12. “Flavor Physics and CP Violation” (2 lectures)  
Frontiers in Contemporary Physics, Vanderbilt University, Nashville, TN, May 2005.
13. “Introduction to heavy meson decays and  $CP$  asymmetries” (3 lectures)  
30th SLAC Summer Institute on Particle Physics, Stanford, CA, Aug 2002.
14. “ $B$  Physics” (3 lectures), TASI 2001 Summer School, Boulder, June 2001.
15. “Flavor Physics and  $CP$  violation” (3 lectures), Fermilab Academic Lectures, Nov 1998.

## DEPARTMENTAL COLLOQUIA:

1. “Flavor Physics: Past, Present, Future”  
University of Oregon, Eugene, OR, Nov 2019.
2. “Flavor Physics in the LHC Era”  
University of Montreal, Montreal, Quebec, Canada, Jan 2014.
3. “From B factories to the Large Hadron Collider”  
University of Cincinnati, Cincinnati, OH, Mar 2011.
4. “Beauty for Valentine’s Day: From  $B$  factories to the LHC”  
Harvard University, Cambridge, MA, Feb 2011.
5. “From B meson factories to the Large Hadron Collider”  
Dortmund University, Dortmund, Germany, Dec 2009.
6. “Disentangling Neutrino Oscillations”  
George Marx Memorial Lecture, Eötvös University, Budapest, Hungary, May 2009.
7. “From B meson factories to the Large Hadron Collider”  
UC Riverside, Riverside, CA, May 2008.
8. “The CKM matrix and CP Violation”  
University of Cape Town, South Africa, Sep 2005.

## MAJOR INVITED PLENARY AND KEYNOTE TALKS:

1. “Future Flavor Frontiers”, Invited plenary talk at the Rare Processes and Precision Measurements Frontier Spring Meeting [Snowmass], University of Cincinnati, May 2022
2. “Flavor physics: past & future”, Belle II Academy, Invited opening lecture, March 2021, online
3. “The Problem of Flavor”, SLAC Summer Institute, invited opening lecture, Aug 2019.
4. “LHCb Phase-2 Upgrade: A Clear Case”, Beyond the LHCb Phase-1 Upgrade, opening plenary talk, La Biodola, Isola d’Elba, Italy, May 2017.
5. “The Role of Flavor in 2026”, CKM 2016 Conference, invited opening talk, Mumbai, India, Nov 2016.
6. “Flavor constraints on New Physics”, Lepton-Photon Conference, invited plenary talk, Ljubljana, Slovenia, Aug 2015.
7. “Theoretical outlook”, invited plenary talk, FPCP 2015, Nagoya, Japan, May 2015.
8. “Theoretical status and perspectives in heavy-flavor physics”, Invited plenary talk at LHCP 2014, Columbia University, New York, NY, June 2014.
9. “Quark, Lepton Flavor and CP Violation”, Plenary colloquium at “Snowmass”, Minneapolis, MN, Aug 2013.
10. “Flavor Physics in the LHC Era”, Invited plenary talk at the Pheno 2008 Symposium, Madison, WI, Apr 2008.
11. “Flavor Physics Theory”, Invited plenary talk at the Joint Meeting of the Pacific Region Particle Physics Communities, Honolulu, HI, Nov 2006.
12. “The CKM matrix and CP Violation (in the continuum approximation)”, Invited plenary talk at Lattice 2005, Dublin, Ireland, Jul 2005.
13. “The CKM matrix and CP Violation”, Invited plenary talk at ICHEP 2004, Beijing, China, Aug 2004.
14. “New Results in Flavor Physics”, Invited plenary talk at International Europhysics Conference on High-Energy Physics (EPS-HEP ’01), Budapest, Hungary, Jul 2001.

## OTHER SELECTED PLENARY TALKS:

1. “ $B \rightarrow X_s \gamma$  and  $|V_{ub}|$  from SIMBA”  
Invited talk, Workshop on “Challenges in Semileptonic  $B$  Decays” Barolo, Italy, Apr 2022
2. “Flavor physics prospects and opportunities at Tera- $Z$ ” Invited talk, The 2021 International Workshop on the High Energy Circular Electron Positron Collider, Nov 2021
3. “New results in beauty and charm decays”, Invited talk, APS April meeting, 2021, online
4. “Flavors of future surprises?”  
Invited talk, KITP workshop on “New Physics from Precision at High Energies”, Mar 2021
5. “Fun with  $\Lambda_b$ ,  $V_{cb}$ , and Hammer”  
New Physics on the Low-Energy Precision Frontier, CERN, Geneva, Feb 2020.

6. “Summary of Open Symposium on European Strategy Upgrade: Flavor and BSM”, KAIST–KAIX Workshop for Future Particle Accelerators, Daejeon, South Korea, July 2019.
7. “Semileptonic  $B$  Decays”, CMS workshop on “Finding New Physics with 10 Billion  $b$  Hadrons”, Imperial College, London, May 2019
8. “Flavor physics beyond BaBar”, BaBar 25th Anniversary Symposium, SLAC, Stanford, Dec 2018.
9. “Why aim for ultimate precision?”  
Towards the Ultimate Precision in Flavour Physics, opening keynote talk, University of Warwick, UK, April 2018.
10. “Perspectives on flavor at HL/HE LHC,”  
HE/HL LHC Meeting, Fermilab, IL, April 2018.
11. “ $B \rightarrow D^{**} \ell \nu$  and the extraction of  $|V_{cb}|$  and searches for NP,”  
Challenges in semileptonic  $B$  decays, Mainz, Germany, April 2018.
12. “Summary remarks: a theorist’s viewpoints,”  
Second LHCb open semitauonic workshop, LAL, Orsay, France, Nov 2017.
13. “ $B \rightarrow D^{**} \ell \nu$ : signals and backgrounds”  
7th workshop on “Implications of LHCb measurements and future prospects”, CERN, Switzerland, Nov 2017.
14. “Mu2e and the quark flavor anomalies”,  
Mu2e Collaboration Meeting, Fermilab, IL, June 2017.
15. “Theoretical perspectives on  $R(D)$  and  $R(D^*)$ ,”  
Invisibles 2017 workshop, Zurich, Switzerland, June 2017.
16. “(Some) Flavor Anomalies: facts and/or fictions,”  
From the LHC to Dark Matter and Beyond, Aspen, CO, March 2017.
17. “Introduction to Heavy Flavours”  
Rencontres de Moriond, QCD and High Energy Interactions, La Thuile, Italy, Mar 2016.
18. “New results on  $b \rightarrow c \tau \nu$  and on  $\epsilon_K$ ”, KEK Theory Meeting on Particle Physics Phenomenology (KEK-PH2016), Tsukuba, Japan, Feb 2016.
19. “Flavor models for  $B \rightarrow D^{(*)} \tau \nu$ ”,  
5th KEK Flavor Factory Workshop (KEK-FF2015), Tokyo, Japan, Oct 2015.
20. “CP violation in the charm and bottom systems: theoretical perspective”,  
Physics at the High-Luminosity LHC, CERN, May 2015.
21. “Inclusive  $V_{ub}$  from SIMBA”,  
Challenges in Semileptonic  $B$  Decays, Mainz, Germany, Apr 2015.
22. “Predictions and speculations related to  $b \rightarrow c \tau \nu$ ”,  
Naturalness 2014, Weizmann Institute, Rehovot, Israel, Nov 2014.
23. “Surprises in  $\alpha(\phi_2)$ ”, Belle II Theory Interface Platform, Tsukuba, Japan, Oct 2014.
24. “ $B$  mixing and CP violation”,  
Implications of LHCb measurements and future prospects, CERN, October 2013.
25. “Flavor, with and without loops”, Loopfest XII, Tallahassee, FL, May 2013.
26. “Flavor physics theory overview” (Conference opening talk)  
KEK Flavor Factory Workshop (KEK-FF) 2013, Mar 2013

27. “ $D^0$  mixing in the SM (not assuming  $m_c \gg \Lambda_{\text{QCD}}$ )”, and “Exclusive vs. Inclusive – perspectives on  $V_{cb}$  and  $V_{ub}$ ”, CKM 2012 Workshop, Cincinnati, OH, Oct 2012.
28. “Implications of the LHCb evidence for charm CP violation”  
Charm 2012 Conference, Honolulu, HI, May 2012.
29. “Flavor physics in the LHC era”  
The 1st KIAS Phenomenology Workshop, Seoul, Korea, Nov 2011.
30. “Workshop Summary”  
Implications of LHCb Measurements and Future Prospects, CERN, Nov 2011.
31. “On the  $t\bar{t}$  forward-backward asymmetry”,  
INT Workshop “Frontiers in QCD”, Seattle, WA, Sep 2011.
32. “Flavor Physics in the LHC Era”  
Physics at the Dawn of the LHC Era, TRIUMF, Vancouver, Jan 2011.
33. “Dark matter models with uniquely spin-dependent detection”  
The Role of Heavy Fermions in Fundamental Physics, Portoroz, Slovenia, Apr 2011.
34. “BaBar, SIMBA, and Dark Matter”  
Plenary talk at the BaBar Collaboration Meeting, SLAC, January 2011.
35. “Physics reach of future flavor experiments”  
8th Flavor Physics and CP Violation Conference (FPCP 2010), Torino, Italy, May 2010.
36. “Workshop Summary”, Joint BaBar/Belle/HFAG Workshop on  $|V_{ub}|$  and  $|V_{cb}|$  (Vxb 2009), SLAC, Stanford, Oct 2009.
37. “Theoretical status of  $|V_{cb}|$  and  $|V_{ub}|$ ”, Invited plenary talk at the 12th International Conference on B-Physics at Hadron Machines, Heidelberg, Germany, Sep 2009.
38. “Disentangling Neutrino Oscillations”, Ringberg workshop on New Physics, Flavors and Jets, Ringberg Castle, Germany, Apr 2009.
39. “Radiative electroweak B decays”, Invited plenary talk at the Workshop on Hints for New Physics from Flavor Decays, KEK, Tsukuba, Japan, Mar 2009.
40. “ $|V_{ub}|$  at Super-B”,  
2nd Open Meeting of the SuperKEKB Collaboration, Tsukuba, Japan, Mar 2009.
41. “Theory Outlook”,  
CERN Theory Institute on Flavour Physics, Geneva, Switzerland, June 2008.
42. “SCET goes on in  $B \rightarrow X_s \ell^+ \ell^-$ ”, SCET 2008 Workshop, Mainz, Germany, Apr 2008.
43. “Theoretical motivations for a Super B Factory”, Invited talk at the meeting of the Particle Physics Project Prioritization Panel (P5), SLAC, Stanford, CA, Feb 2008.
44. “B Physics: Past and Present”, Invited talk at ARGUS Symposium: Twenty years of B meson mixing, DESY, Hamburg, Germany, Nov 2007.
45. “Learning from  $b \rightarrow s \ell^+ \ell^-$  effectively”,  
Workshop on Flavour Dynamics, Albufeira, Portugal, Nov 2007.
46. “Mixing and CP Violation in the  $B_s^0$  and  $D^0$  systems”, Invited plenary talk at the 5th Flavor Physics and CP Violation Conference (FPCP 2007), Bled, Slovenia, May 2007.
47. “New physics and  $B_s$  mixing”, CKM 2006 Workshop, Nagoya, Japan, Dec 2006.
48. “Why Super-B?”, Invited plenary talk at the Third Workshop on a Super Flavor Factory Based on Linear Collider Technology, SLAC, Jun 2006.
49. “Annihilation in  $B \rightarrow M_1 M_2$  decays”, First Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, Capri, Italy, May 2006.



50. “Theory summary”, “Theoretical issues in  $B \rightarrow X_u \ell \bar{\nu}$  partial rates”  
Joint BaBar – Belle Workshop, Melbourne, Australia, Jan 2006.
51. “Who needs SCET in  $B \rightarrow X_s \ell^+ \ell^-$ ?”  
Flavour in the Era of the LHC, CERN, Geneva, Switzerland, Nov 2005.
52. “SM uncertainties in CP asymmetries related to  $\sin 2\beta$ ”, CKM 2005, UCSD, Mar 2005.
53. “Measuring  $\alpha$  from  $B \rightarrow \rho\rho$ ”, Super B Factory Workshop, Honolulu, HI, Jan 2004.
54. “Sides of the Unitarity Triangle with a (few) dozen giga  $B$ ’s”, Invited plenary talk at the  
5th Workshop on Higher Luminosity B Factory, Izu, Japan, Sep 2003.
55. “ $|V_{ub}|$  and  $|V_{cb}|$ : Theoretical Developments”  
Flavor Physics & CP Violation (FPCP 2003), Paris, France, Jun 2003.
56. “Theoretical Perspectives on Flavor Physics and CP violation”, DPF Invited Session at  
the APS April Meeting, Philadelphia, Apr 2003.
57. “ $D^0-\bar{D}^0$  Mixing”, 37th Rencontres de Moriond: Electroweak Interactions and Unified  
Theories, Les Arcs, France, Mar 2002.
58. “What can we hope to learn with half an  $\text{ab}^{-1}$ ?”, Invited talk at the BaBar Collaboration  
meeting, Apr 2001.
59. “Recent Progress in  $B$  physics”, Aspen Winter Conference in Particle Physics, Jan 2001.
60. “CKM Matrix Elements from  $B$  Decays”, Fourth International Conference on Quark  
Confinement and the Hadron Spectrum, Vienna, Austria, July 2000.
61. “ $B$  physics at the Tevatron”, Fermilab, Annual Users’ Meeting, Jun 2000.
62. “Measuring  $V_{ub}$  without solving QCD”, 35th Rencontres de Moriond: QCD and Hadronic  
Interactions, Les Arcs, France, Mar 2000.
63. “ $B$  Decays in the Upsilon Expansion”, Invited talk at the International Europhysics Con-  
ference on High-Energy Physics (EPS-HEP ’99), Tampere, Finland, Jul 1999.
64. “ $|V_{cb}|$  and  $|V_{ub}|$  from  $B$  Decays: Recent Progress and Limitations”, Invited talk at the  
Chicago Conference on Kaon Physics (Kaon ’99), Chicago, Jun 1999.
65. “Theoretical Developments in Inclusive  $B$  Decays”, American Physical Society Meeting  
of the Division of Particles and Fields (DPF 99), Los Angeles, Jan 1999.
66. Local Duality and Nonleptonic  $B$  decay, Third Workshop on Continuous Advances in  
QCD, Minneapolis, April 1998.
67. “New strategies for extracting  $V_{ub}$ ”, Invited talk at the 33rd Rencontres de Moriond:  
Electroweak Interactions and Unified Theories, Les Arcs, France, Mar 1998.
68. “Semileptonic  $B$  decays to excited charm mesons”, Invited talk at the 7th International  
Symposium on Heavy Flavor Physics, Santa Barbara, Jul 1997.
69. “Nonperturbative effects in inclusive  $B \rightarrow X_s \gamma$ ”, Symposium on Flavor Changing Neutral  
Currents: Present and Future Studies (FCNC 97), Santa Monica, Feb 1997.
70. “Photon spectrum in  $B \rightarrow X_s \gamma$  decay”, Invited talk at the Aspen Winter Conference on  
Particle Physics, Aspen, Jan 1996.
71. “The determination of  $|V_{cb}|$  and QCD Sum Rules in HQET”, Invited plenary talk at the  
Advanced Study Conference on Heavy Flavours, Pavia (Italy), Sep 1993.