

Denver 1992: Convention Workshops

Wednesday (November 11)

A Sourcebook of Biotechnology Activities

Time: 9 a.m.-4 p.m. Fee: \$65

This hands-on workshop will be presented by authors of NABT and North Carolina Biotechnology Center's 240-page biotechnology lab manual. Lessons from the book will be presented. Workshop price includes a copy of *A Sourcebook of Biotechnology Activities*. Time allowed for participants to get lunch. Limit: 30.

Introduction to Protein Biotechnology

Time: 10 a.m.-4 p.m. Fee: \$65

Join Professor Jack G. Chirikjian and colleagues in this hands-on short course focusing on protein biotechnology and sponsored by EDVOTEK, Inc., Georgetown University and the National Science Foundation. Although all proteins are composed of the 20 amino acids, each protein has a unique three-dimensional compositional structure. The purification and analysis of proteins are important tools in biotechnology. This workshop will introduce participants to procedures for determining the composition of proteins in various biological materials, using electrophoresis with pre-cast polyacrylamide gels. The use of protein agarose gels to separate protein mixtures will also be covered. Gels will be stained with the EDVOTEK Protein Plus stain for visualization. Destained gels will be available to participants the next day. Limit: 30.

Thursday (November 12)

A Sourcebook of Biotechnology Activities

Time: 9 a.m.-4 p.m. Fee: \$65

This hands-on workshop will be presented by authors of NABT and North Carolina Biotechnology Center's 240-page biotechnology lab manual. Lessons from the book will be presented. Workshop price includes a copy of *A Sourcebook of Biotechnology Activities*. Time allowed for participants to get lunch. Limit: 30.

Introduction to DNA Biotechnology

Time: 9 a.m.-1 p.m. Fee: \$45

Professor Jack G. Chirikjian of Georgetown University leads this hands-on short course sponsored by EDVOTEK, Inc., Georgetown University and the National Science Foundation. Explore experimental activities in DNA biotechnology that have been used successfully in U.S. and Canadian colleges and high schools. Experiments include activities focusing on DNA spooling and the separation of molecules using agarose gel electrophoresis. Discussions will include the theory and practice of electrophoresis as it applies to AP Biology Laboratory 6, and its various applications in biotechnology. Participants will take home biotechnology protocols and resource materials to help integrate biotechnology concepts in the classroom. Participants will be eligible to participate in the BIO-REEP equipment loan partnership program co-sponsored by NABT, EDVOTEK, Georgetown University and NSF. Limited to high school and college. Limit: 30.

Friday (November 13)

Biotechnology & AP Molecular Biology

Time: 8 a.m.-noon Fee: \$60

Participants in this hands-on laboratory workshop, sponsored by FOTODYNE, Inc., will be introduced to principles and techniques of biotechnology and molecular biology that have been successfully introduced into precollege and college curricula. The workshop will cover a major portion of the molecular biology laboratory exercises being recommended by Advanced Placement. These experiments will use FOTODYNE's equipment which has been designed for the teaching laboratory. Participants receive a package containing a basic Introduction to Molecular Biology, Reference List, Laboratory Protocols and an Instructor's Handbook. Participants also take home an actual stained gel or Polaroid photograph of a gel. Limit: 30.

Bacterial Transformation for AP Biology & Undergraduate Instructors

Time: 1 p.m.-5 p.m. Fee: \$45

Professor Jack G. Chirikjian of Georgetown University leads this hands-on short course focusing on bacterial transformation and sponsored by EDVOTEK, Inc., Georgetown University and the National Science Foundation. Explore experimental activities in transformation, plating and selection of bacterial cells and transformation efficiency determination. The hands-on activity will use *E. coli* JM101 cells and plasmid pGAL, a proprietary plasmid engineered by EDVOTEK scientists. The plasmid pGAL yields blue colonies to visually demonstrate the expression of a specific gene for the Lac phenotype. Discussions will include cell competency, *E. coli* beta galactosidase gene, the use of X-Gal to yield blue colonies and the *E. coli* HB101 and pBR322 transformation system. Participants will take home protocols and resource materials to help integrate biotechnology concepts in the classroom. Limited to high school and college. Limit: 30.

Biotechnology & AP Molecular Biology

Time: 1 p.m.-5 p.m. Fee: \$60

Participants in this hands-on laboratory workshop, sponsored by FOTODYNE, Inc., will be introduced to principles and techniques of biotechnology and molecular biology that have been successfully introduced into precollege and college curricula. The workshop will cover a major portion of the molecular biology laboratory exercises being recommended by Advanced Placement. These experiments will use FOTODYNE's equipment which has been designed for the teaching laboratory. Participants receive a package containing a basic Introduction to Molecular Biology, Reference List, Laboratory Protocols and an Instructor's Handbook. Participants also take home an actual stained gel or Polaroid photograph of a gel. Limit: 30.

Denver 1992: Convention Field Trips

Wednesday (November 11)

- 1. Skiing at Keystone (social)**
Time: 7 a.m.-5:30 p.m. *Price:* \$30, incl. breakfast
Plan a day on the mountain or in the Village at Keystone, a complete resort area with all winter sports: skiing on 500 acres, 50 slopes challenging to all levels of skiing, ice skating, snowmobiling and cross-country skiing. All activities are centered around a modern mountain village filled with restaurants, lounges, boutiques and shops. Keystone Lodge has a fireside lounge for mountain viewing and relaxation. Ski rentals are available at the resort. A continental breakfast is included.
- 2. Rocky Mountain National Park**
Time: 8 a.m.-5 p.m. *Price:* \$26, incl. lunch
See the magnificent mountain scenery of this popular national park. Tour new museum displays in Moraine Park, become acquainted with the new environmental education program being developed for Rocky Mountain National Park, see Bear Lake and take a hike in the subalpine forest. November is a good time to view large herds of elk. Your guide will point out features of the various mountain zones on your way to the park; once there, rangers will explain features of special interest. A box lunch is included.
- 3. NOAA, NIST & NCAR**
Time: 8 a.m.-4 p.m. *Price:* \$16
Visit three government research laboratories in Boulder: the National Oceanic and Atmospheric Administration, the National Institute for Science and Technology and the National Center for Atmospheric Research. See what is new in weather forecasting, climate modeling, the study of atmospheric chemistry, super-conductivity and more. Find out about Project LEARN, a new educational program for middle schools, at NCAR. Lunch will be on your own at the NCAR cafeteria; watch out the windows for deer wandering through the foothills west of Boulder.
- 4. Denver Zoo, Denver Museum of Natural History & IMAX Theater**
Time: 9 a.m.-4 p.m. *Price:* \$28
A behind-the-scenes view of the Denver Zoo in the morning is followed by an afternoon behind-the-scenes view of the Denver Museum of Natural History and a program at the IMAX Theater. Docents will guide groups of 10 to 15 through displays and special features. A new Aztec display at the Denver Museum will be open in November. The program at the IMAX Theater has not yet been announced. Lunch will be on your own at the cafeteria in the Denver Museum of Natural History.
- 5. Rocky Mountain Arsenal**
Time: 12:30 p.m.-4:30 p.m. *Price:* \$5
See the Rocky Mountain Arsenal, which formerly produced chemical weapons and pesticides but is now home to more than 130 species of wildlife, including deer, coyotes, fox,

badger, prairie dogs and bald eagles. A cleanup program is ongoing at this Superfund site once described as the most polluted square mile on earth. A law now in Congress proposes transferring administration of this area to the Department of the Interior for an urban wildlife sanctuary.

Thursday (November 12)

- 6. Rocky Mountain National Park**
Time: 8 a.m.-5 p.m. *Price:* \$26, incl. lunch
See description under Field Trip #2.
- 7. NOAA, NIST & NCAR**
Time: 8 a.m.-4 p.m. *Price:* \$16
See description under Field Trip #3.
- 8. National Renewable Energy Laboratory (NREL)**
Time: 8:30 a.m.-noon *Price:* \$12
NREL focuses on alternative energy research; learn about their efforts in capturing solar, wind and geothermal energy. See new developments in alternative fuel sources and energy efficiency in home construction.
- 9. Grizzly Rose (social)**
Time: 9 p.m.-midnight *Price:* \$15 & cover charge
Sample the music of the Wild West at this popular country music dance hall and saloon. Enjoy an evening of live country music, line dancing and some of the best entertainers around. For a true one-of-a-kind Western experience, put on your jeans and cowboy hat and kick up your heels. Cover charge varies from \$5 to \$14, depending on the show, and is not included in the ticket price.

Friday (November 13)

- 10. Denver Botanic Gardens**
Time: 1 p.m.-4 p.m. *Price:* \$15
Enjoy orchids and bromeliads, even if the weather is cold. Visit the greenhouses behind the public displays, see ancient herbals in the rare book room and don't forget the herbarium. Eat lunch before you go: There is no place to eat at the Botanic Gardens.
- 11. Rocky Mountain Arsenal**
Time: 12:30 p.m.-4:30 p.m. *Price:* \$5
See description under Field Trip #5.
- 12. Denver City Tour (social)**
Time: 12:30 p.m.-4:30 p.m. *Price:* \$30, incl. high tea
The city of Denver has a rich frontier heritage. View Denver's earliest streets as you go from "Millionaires' Row," where you'll see the residences of silver and gold barons, to where saloons and houses of ill repute once prevailed. Visit the State Capitol with its gold-plated dome and tour the "Unsinkable Molly Brown House." High tea, served at the Brown Palace Hotel, is included.

13. Recombinant DNA Research at Coors

Time: 1 p.m.-4:30 p.m. *Price:* \$15

Research on recombinant DNA in yeast is being conducted at Coors Brewing Company. Watch quality control procedures and the use of robotics, as well as the malting, brewing and can packing facilities. Try a sample of Coors beer at the end of the tour.

14. Gold Mines & Gambling at Central City (social)

Time: 5:15 p.m.-10 p.m. *Price:* \$20

Is Friday the 13th your lucky day? If so, then Central City is the place to go. Enjoy a chartered bus trip into the Colorado Rockies with a visit to the frontier town of Central City. Tour the city once known as the "richest square mile on earth." See the saloons and residences in this historic mining town, walk down Main Street, browse in the shops and view the "face painted on the barroom floor" in the Teller House Hotel. Gamble for small stakes at blackjack and poker tables, and try your luck at the "slots." A tour guide will offer stories about the majestic Rocky Mountains, the beginnings of the state of Colorado and the days of miners and madames.

15. Brewery Bash at Coors (social)

Time: 6:30 p.m.-10:30 p.m. *Price:* \$32, incl. dinner

Tour Coors Brewery, located in a scenic foothills setting. Watch how the beer brewed with Rocky Mountain springwater is made, from the malting of the barley to the packaging of the product. Then enjoy a Western BBQ buffet dinner in the brewery's Hospitality Room.

Saturday (November 14)

16. Colorado Springs, Air Force Academy & Garden of the Gods (social)

Time: noon-5 p.m. *Price:* \$30, incl. box lunch

This visit to the majestic Pikes Peak region includes a trip to the U.S. Air Force Academy at Colorado Springs. You'll see the sprawling campus set against a backdrop of mountain peaks and the Cadet Chapel with its 17 gleaming aluminum spires. Then drive through the Garden of the Gods, a registered national landmark of red sandstone rock formations. Formerly an old Ute Indian burial ground and encampment, it is now a geological park. A box lunch is provided.

17. Square Dancing (social)

Time: 9 p.m.-midnight *Price:* \$5

Come to a typical western square dance. Learn to dance if you don't know how or enjoy watching others. A professional square dance caller will ensure a fun experience for all.

Sunday (November 15)

18. Skiing at Keystone (social)

Time: 7 a.m.-5:30 p.m. *Price:* \$30, incl. breakfast

See description under Field Trip #1.

Note: The bus will stop at the Radisson Hotel and Stapleton Airport on the return trip.

Please direct all hotel reservation requests and questions directly to the Radisson.

PLEASE TYPE OR BLOCK PRINT ONLY

National Association of
Biology Teachers

Conv. dates: Nov. 11-15, 1992
Rates apply: Nov. 9-16, 1992

Radisson Hotel Denver
THE HOTEL ON THE MALL
Colorado's Convention Headquarters Hotel
1550 Court Place, Denver, Colorado 80202
An Ash Associates, Inc.-managed hotel
303-893-3333

Radisson Reservations
Worldwide
800-333-3333

ARRIVAL DATE _____ ARRIVAL TIME _____ DEPARTURE DATE _____

LAST NAME _____ FIRST NAME _____ MR. & MRS.

ADDRESS _____

CITY _____ STATE _____ ZIP _____ TEL _____

COMPLETE THIS IF APPLICABLE: SEPARATE BILLS (SPLIT FOLIO) REQUESTED

SHARING ROOM WITH: LAST NAME _____ FIRST NAME _____

TYPE OF ROOM REQUESTED: DBL: 2-4 PPL/2 BEDSRATE: \$75
 SINGLERATE: \$75 1-BDRM SUITE*RATE: \$225
 DBL: 2 PPL/1 BED ...RATE: \$75 2-BDRM SUITE*RATE: \$300

If rate requested is not available, the next available rate will be confirmed. Special rates are only available for group dates; regular hotel rates apply all other nights. No other special rates available during group dates.

Check-in: 3 p.m. Check-out: Noon

*SUITES SUBJECT TO AVAILABILITY

ALL RATES EXCLUSIVE OF 11.8% TAX (SUBJECT TO CHANGE)

RESERVATIONS RECEIVED AFTER 10/21/92 WILL BE ACCEPTED ON A SPACE-AVAILABLE BASIS ONLY

ALL RESERVATIONS ARE HELD UNTIL 6 P.M. UNLESS GUARANTEED BY A MAJOR CREDIT CARD

CARD TYPE _____ NUMBER _____ EXP. DATE _____

DENVER - Get there for less! NABT Conference November 11-15, 1992



UNITED AIRLINES and Conventions in America are offering significant discounts on airfares.

40% off coach class fares*
5% off lowest applicable fares

* 3 day advance purchase. Some restrictions apply. Travel between Nov. 8-18, 1992

To make your reservations, call Conventions in America at **1-800-535-1492**, ask for Group #628.
Guaranteed lowest fares on any airline!

or

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CALL TODAY
1-800-535-1492 - Group #628

Reservation hrs: 7:00am-5:00pm Pacific Time (24 hour toll free message line)

ATTENTION NABT STAFF & MEMBERS: Now you can book your business travel year round through Conventions in America. Be sure to use NABT's special code #219 so both you and your professional organization will benefit.

A separate form must be completed by EACH person attending the annual convention.
Please print (or type) all information requested below. SPOUSES MUST FILE SEPARATE FORMS.

PLEASE PRINT

Name (First, Last) _____

School or Org. (for convention badge): _____

Professional Address: _____

City/State/Zip: _____

Home Address: _____

City/State/Zip: _____

Daytime Phone: () _____

Member ID # (on journal label) _____

Please mail membership information to: School/Org. Home

Please mail 1992 convention materials to: School/Org. Home

I teach at the following level: Elem. Middle/Jr. High

High School 2-Year College 4-Year College Other

I. MEMBERSHIP RENEWAL *Renew now before 1993 rate increase.*
Regular-\$38; Student-\$19; Spouse-\$13; Retired-\$19

Renewal

II. REGISTRATION OPTIONS

a) I am a program participant. Registration fee has been paid.

b) Nonmember offer! Register & join NABT: \$75. _____
(If checked, move on to III. Meals)

c) Full registration:

	Pre-Mtg. (Before 10/9)	On-Site	Amt.
<input type="checkbox"/> Regular Member	\$45	\$65	_____
<input type="checkbox"/> Retired Mmbr/FT Student	\$25	\$35	_____
<input type="checkbox"/> Nonmember	\$70	\$90	_____
<input type="checkbox"/> Family/Nonmember spouse	\$15	\$25	_____

d) Daily registration [circle the day(s)]:

Wed	Thurs	Fri	\$40/day	\$50/day	_____
Sat.			\$30/day	\$40/day	_____

Postmark forms by Oct. 9 to qualify for preregistration rates. No registration, field trip, workshop or meal refunds made after Oct. 9. Cancellation requests must be in writing; a \$10 handling fee will be assessed.

REGISTRATION FORMS POSTMARKED AFTER OCT. 9 WILL BE RETURNED.

Mail this form with payment in U.S. dollars to:
NABT Convention, 11250 Roger Bacon Dr. #19, Reston, VA 22090
703/471-1134

FOR OFFICIAL USE ONLY		
check	cash	charge
Amt. Rec'd.: \$ _____		
By: _____		Date: _____

III. MEALS

Thurs. 2-Yr. Col. Bio Sec. Dinner	#tickets _____ @ \$25= \$ _____
Fri. 4-Yr. College Brkfst	#tickets _____ @ \$ 8= \$ _____
Fri. Elem/Mid Schl Brkfst	#tickets _____ @ \$ 9= \$ _____
Fri. Inter'l Activities Brkfst	#tickets _____ @ \$13= \$ _____
Fri. Honors Luncheon (open to all)	#tickets _____ @ \$20= \$ _____
Sat. Role/Stat. Women Brkfst	#tickets _____ @ \$12= \$ _____
Sat. Banquet	#tickets _____ @ \$30= \$ _____

IV: FIELD TRIPS Circle the NUMBERS of the field trips you want.
Field trips are for adult conv. registrants only, except for social trips.

	1st choice					2nd choice					Amt. Due		
Wed.	<u> 1 </u>	<u> 2 </u>	<u> 3 </u>	<u> 4 </u>	<u> 5 </u>	<u> 1 </u>	<u> 2 </u>	<u> 3 </u>	<u> 4 </u>	<u> 5 </u>	_____		
Thurs.	<u> 6 </u>	<u> 7 </u>	<u> 8 </u>	<u> 9 </u>	_____	<u> 6 </u>	<u> 7 </u>	<u> 8 </u>	<u> 9 </u>	_____	_____		
Fri.	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	_____
Sat.	<u>16</u>	<u>17</u>	_____	_____	_____	_____	<u>16</u>	<u>17</u>	_____	_____	_____	_____	_____
Sun.	<u>18</u>	_____	_____	_____	_____	_____	<u>18</u>	_____	_____	_____	_____	_____	_____

V. WORKSHOPS (pre-registration required for all)

<i>A Sourcebook of Biotechnology Activities</i> 9 a.m.-4 p.m. Wed., Nov. 11	@ \$65 = \$ _____
<i>Introduction to Protein Biotechnology</i> 10 a.m.-4 p.m. Wed., Nov. 11	@ \$65 = \$ _____
<i>A Sourcebook of Biotechnology Activities</i> 9 a.m.-4 p.m. Thurs., Nov. 12	@ \$65 = \$ _____
<i>Introduction to DNA Biotechnology</i> 9 a.m.-1 p.m. Thurs., Nov. 12	@ \$45 = \$ _____
<i>Biotechnology & AP Molecular Biology</i> 8 a.m.-noon Fri., Nov. 13	@ \$60 = \$ _____
<i>Bacterial Transformation for AP Biology & Undergrad. Instructors</i> 1 p.m.-5 p.m. Fri., Nov. 13	@ \$45 = \$ _____
<i>Biotechnology & AP Molecular Biology</i> 1 p.m.-5 p.m. Fri., Nov. 13	@ \$60 = \$ _____

SUMMARY	
I. Membership fee	\$ _____
II. Registration fee	\$ _____
III. Meals	\$ _____
IV. Field Trips	\$ _____
V. Workshops	\$ _____
Total Payment Enclosed	\$ _____

<input type="checkbox"/> Check payable to NABT enclosed	
Charge: <input type="checkbox"/> MasterCard	<input type="checkbox"/> VISA
Card # _____	Exp. Date _____
(all charge orders must be signed)	