

Résumé Preparation—



TIPS FOR CHEMICAL PROFESSIONALS



2003
AMERICAN CHEMICAL SOCIETY
Department of Career Services

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The American Chemical Society Department of Career Services (DCS) offers career assistance and information on employment issues to chemistry professionals. This booklet, written for the chemical professional at any career stage, is based on a review of various résumé sources and interviews with recruiters. It was revised and updated by Elaine Diggs, ACS Senior Membership Associate; Wendy Enelow, Certified Professional Résumé Writer, Job and Career Transition Coach, Certified Career Master, and President, Career Masters Institute; Joseph Sundeen Ph.D., Head of Chemistry Functions, Bristol-Myers Squibb Company–NJ; and Joel Shulman Ph.D., former recruiter for Proctor & Gamble. Jura N. Viesulas, Manager of Professional Services, reviewed the manuscript. Previous editions of the booklet (published in 1994, 1996, and 1998) were written by DCS staff members and ACS career consultants. The Department is grateful to the writers and reviewers for their time and effort in developing this guide.

Ena Castro
American Chemical Society
Assistant Director
Department of Career Services
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Preface



This guide is to help you make the best possible first impression on a potential employer. It is based on various résumé writing sources and interviews with industrial recruiters, who offer their best advice on how to craft attention-getting résumés. (See the bibliography in Appendix A.)

Creating the perfect résumé is part science, part art—and a lot of hard work. You must be willing to spend considerable time reflecting on your skills and accomplishments, formulating career goals for your future, then composing and editing the document. Because this important tool is used to get you an interview with a potential employer, it should be clear, accurate, and concise. Your résumé outlines your career objective and/or highlights of your career to date, education, major skills and accomplishments, work experience, references, and other items. Its purpose is to convince a potential employer that you're an outstanding candidate who will make positive contributions.

A résumé—the focus of this guide—is usually used to apply for industrial and corporate positions. A curriculum vitae is needed for academic situations, and the Federal Job Application, OF-612 (formerly the SF-171) or a federal government résumé is required for government employment. (How to handle these special formats is discussed in Chapter 3.)

As you read this guide, keep in mind that if you talk to 10 different people, you'll get 10 different versions of what to put on your résumé. Formats vary, as do personalities. Your primary goal is to communicate enough information about yourself to prompt an interview.

After you have created your résumé, written your curriculum vitae, or filled out your OF-612, take advantage of the many professional and employment services offered by the ACS. (see Appendix B for details).

DISCLAIMER

This guide is meant to serve as a basic information resource on résumé preparation to chemists. Information was compiled from published sources that we deemed reliable (see Bibliography, Appendix A and Appendix B). Readers should consult the appropriate authorities for additional information or assistance beyond the scope of this guide. The American Chemical Society (ACS) does not guarantee employment to any reader of this document or accept responsibility for setting standards with regard to any topic discussed herein. ACS and the authors, contributors, and reviewers also are not responsible for the accuracy of information obtained from other sources

The Power of a Résumé

Your résumé is your primary marketing tool. Its purpose is not to get you a job but to get you an interview. Neither an autobiography nor a curriculum vitae, a résumé presents your relevant skills and accomplishments in an accurate and compelling way to interest potential employers.

You have worked hard and studied for years in the field of chemistry, yet possessing credentials—while necessary—is not sufficient to secure appropriate, satisfying employment. As a technical professional, you must present your background and experience so that you stand out from the competition. You may be well qualified, but in a somewhat stagnant economy and increasingly global marketplace, the most qualified person doesn't always get the job. The person with the best job search skills, including writing and designing an effective résumé, is the one most likely to land that coveted position.

The format of your résumé must follow some general guidelines. Job search books and other guidelines usually describe 2 formats: chronological and functional (skills-based) résumés. On a chronological résumé—the traditional personal data format—your work history is presented in strict sequence. You may prefer a skills-based résumé, because the format allows you to emphasize what you can do, immediately focusing the employer's attention on your capabilities vs. timing/gaps/job changes. In reviewing résumés for experienced and entry-level chemical scientists, the ACS Department of Career Services finds the most effective résumé is a combination of the chronological and skills-based formats.

With this in mind, we present the basic components of all résumés, discuss how you can construct the best résumé possible, and present some excellent examples of résumés and cover letters (see Appendix C and Appendix D). Knowing how to avoid common stumbling blocks in résumé preparation will put you on the right track.

Overall Considerations

Because a résumé is a personal introduction to a potential employer, it should convey a lasting, positive first impression. Before you sit down to write your résumé, ask yourself these 3 questions and use the answers in your draft:

- Where am I sending it?
- Who will receive it?
- How will it be read, reviewed, and distributed?

A well written résumé is clear, logically organized, and attractive—both professional looking and easy to read, as summarized on the next pages.



Remember: the function of your résumé is not to get you a job, it's to get you an interview.



Government résumés tend to be longer than average because the federal government requires more information about the candidate. Curricula vitae also are longer, calling for greater detail and publication lists. Length is less of an issue with electronic résumés.

- Keep it brief—2 pages maximum—but comprehensive enough to convey your important skills and significant accomplishments.
- Realize that measurable, quantifiable data will appeal to a potential employer by being concrete, so consider using actual numbers to demonstrate your achievements. These may include the percent of reduction in operating costs, gross sales revenue of a new product you developed, amount of decrease in costs and/or personnel through the introduction of new processes, or specifiable measures regarding methods that improve product yield or quality.
- Make your past job descriptions concise and, most importantly, accurate. This document must sell your capabilities clearly and honestly, so resist the temptation to exaggerate, overstate, embellish, or brag. Potential employers can verify your history; even the slightest misrepresentation can cost you an interview—or a job.

Your résumé is poorly written if it is illogically organized, messy, difficult to read, or much too long or too short. A résumé that contains irrelevant, illegible, incorrect, or insufficient information is hard to evaluate. Some tips to help you avoid these problems follow.

General Tips

A recruiter typically gives a résumé just a few seconds at first glance, so the format and content you choose should make a good impression fast. To ensure that the person who screens résumés takes time to read yours, *you* have to take time to cover the basics.

Paper and Printing

High-quality white paper and laser-quality black printing (not color) make an attractive presentation that will withstand photocopying and remain legible. Use a simple, clear font (see Appendix C for examples). A unique but easy-to-read typestyle that is sharp and communicates professionalism can give your résumé visual distinction. Use bold or italics to highlight important parts of the résumé. (If you're submitting your résumé for electronic scanning, you'll want to use minimal formatting (see Chapter 3).)

Appearance and Format

Be sure your résumé is clean, with no stains or handwritten corrections. Leave ample “white space” for readability. For example, allow for a 1-inch margin all around to create a visual border and room for notes; add spaces between bullets, paragraphs, and sections as well.

Text

Here are important tips for your draft:

- Use clear, concise, concrete language.
- Write in the active voice—save passive voice for abstracts and descriptions in papers published in scientific journals. (For example, “Designed experiments to study the structure of biologically significant molecules,” not “Experiments were designed to study the structure of biologically significant molecules.”).
- Avoid using the first person pronoun (“I,” “me,” “my”).
- Eliminate any personal statistics such as height, weight, marital status, and health.
- Proofread carefully once all your information is in place and don’t rely on spell-check programs. (For example, *field* and *filed* are both spelled correctly but could be in the wrong place, as is also the case with *there*, *they’re* and *their*.) Any honest, unbiased reader whose opinion you value—a friend, colleague, or family member—could be asked to proofread it.

Cover Letter

Always accompany your résumé with a personalized, typed cover letter. (Guidelines for writing a cover letter are discussed in Chapter 4, with samples in Appendix D.)

Creating Your Résumé

When you're ready to write your résumé, start by listing and classifying your skills and achievements. Group these items under headings that reflect your technical, organizational, and managerial skills.

Identifying Skills and Accomplishments

This valuable exercise can be rather time consuming. In fact, it's best if you start a list so you can jot down each item as you think of it, over several days or weeks.

Once you list all your skills and accomplishments, think about which skills (for example, in technology, communication, leadership, or special kinds of instruments/equipment) have led to each accomplishment. Then assign each accomplishment to one or more skill categories as your subheadings. Remember to use specific action words and to quantify the results of your contributions.

Here's an example:

Project Management Skills

- Led a staff of 10 technical personnel in reviewing, evaluating, and validating analytical data for more than 30 new product development programs.
- Designed efficient databases for organic and inorganic analytical test results, reducing annual IT costs by 12%.

Analysis/R&D Skills

- Prepared and analyzed volatile and semivolatile compounds using GC/MS.
- Developed an efficient synthesis (85% overall yield) of sucrose derivatives.

Modify the list until you believe it best reflects your experience. When you're finished, you will have a list of your skills, backed up with concrete examples (your accomplishments), to help you compose your résumé, write cover letters, and prepare for interviews.

Basic Components

How you put together the various parts of your résumé to market yourself effectively will depend on your situation—that is, whether you are a recent graduate or an experienced chemical scientist. For the most part, however, the basic components remain the same, as described in the following subsections.



Even basic skills and modest accomplishments can be worthy to note. Just remember to describe them with a potential employer in mind—what do you offer, and why would you be a valuable addition?



See the ACS Publication, *Interviewing Skills for Chemical Professionals*, for valuable information.



It's advisable to use different Objectives for different employers—especially when you answer job ads. You should reorder/revise other sections to tailor your résumé.



Be as specific and quantitative as possible in identifying your accomplishments—vague statements will not hold up to scrutiny.

Heading

Center your name, home address, phone number(s), and personal email address at the top of the page. (Remember that a company email account is *not* private.)

Provide business and home phone if possible, unless you're permanently employed and can't receive personal calls discreetly at work; a personal (not office) fax number is probably best.

Objective

The Objective gives the employer an idea of what kind of employment you're seeking and a sense of your professional direction. Make sure your Objective is realistic and achievable. If possible, describe the organization level, functional area, industry, and any geographic preference. Tailor the Objective to fit the specific position and organization.

Try to convey your strengths, and how they apply to a given position or a given industry, in just a few words.

Here are some examples:

- Objective: A research and development position in the pharmaceutical industry that takes advantage of extensive experience in synthetic organic chemistry.
- Objective: A position requiring analytical skills in wastewater management to improve (insert prospective employer's name) environmental operations.
- Objective: A senior marketing research and planning position that calls for strong analytical, technical, and creative skills.

If your Objective can't be at least as specific as these examples, you might want to leave it out. Do not use Objectives that might be considered generic. Also, if you're an experienced job seeker considering a range of possible next steps, and you choose not to use multiple résumés, you might omit the Objective. Instead, you can write a strong Highlights or Summary section (see below).

Highlights or Summary

Using a bullet list, showcase 3–5 of your strongest skills/accomplishments relevant to the position, with details for each in other sections of your résumé. The items should be in descending order of importance to the prospective employer. (See Appendix C for examples and Appendix A for other ideas in publications by Wendy Enelow).

Education

List details about your educational background starting with your most recent courses or degree. For each entry, include degree(s) awarded, major(s), school name and location, and date of graduation. For an advanced degree, include the

title of your dissertation and your adviser's name. For a bachelor's, include a grade point average (if above 3.0); for advanced degrees, it is not necessary to mention grade point average.

Here's an example:

Education:

- PhD, Biochemistry, University of California (Berkeley), 2002
Dissertation: "Studies on the structure and function of acetylcholinesterase"
Adviser: Professor A. M. Stacy
- BS, Chemistry, Amherst College (Amherst MA), 1997. GPA: 3.25/4.00.

Some career counselors suggest not giving dates of graduation if you are a mid- or late-career chemist (over the age of 40).

Skills and Accomplishments

Use the techniques described above to create your list. Although some résumé handbooks suggest putting this information under work experience, it may be more effective to group your strengths according to category under a separate heading—particularly if you're making a career change or have gaps in your employment history. If you are a recent graduate or an experienced chemist who has remained in the same field and whose career has progressed steadily, however, it may make more sense to include your Skills and Accomplishments in the section describing your experience.

Experience

This section details your employment history. Start with your most recent experience, listing dates of employment, job title, employer's name and location. If you have presented your achievements under Skills and Accomplishments, job descriptions are not required here. Otherwise, give a brief bullet list of your most significant achievement in each position; for example:

Experience:

1999–Present: Laboratory Assistant, ABC Medilab, Inc., Arlington VA

- Maintained laboratory equipment, reducing the number of service calls from equipment vendors by 15% and decreasing equipment maintenance costs by 6%.
- Verified inventory of lab chemicals and assured storage of volatile compounds, met OSHA guidelines.
- Recorded and field tested freshwater samples, with an analysis accuracy of 99.9%.



When you identify your skills and accomplishments, only the results count—it's not enough to say what you did. You have to go a step farther and show the *outcome* of those actions.



If you took time off from your career, be prepared to explain employment gaps during the interview, not on your résumé or in your cover letter.

Old Information

Interviewers have a tendency to play down résumé information that is more than 10 years old. However, do include any details relevant to the job. You also will need to ensure that your skills (particularly in instrumentation) are not outdated.

Short-Term Jobs

If you've held short-term consulting jobs that are relevant to the position, include them, as in this example:

Experience:

- 1994–96: Various short-term consulting jobs with Kimberly Clark, Procter & Gamble, GlaxoSmithKline, Johnson & Johnson.

Also describe briefly, using a bullet list, any interesting projects or innovative technologies that support your qualifications.

Volunteer Work

List volunteer work that exhibits leadership, management skills, or the ability to work on a team—anything related to the job. This is especially good for new graduates, who may have limited experience to offer in the workplace.

Military Service

Include military service if the experience is relevant to the job. If you gained leadership and management experience while in the military, also list these points as acquired skills in the appropriate section.

Awards

List all academic and professional awards from national, regional, and local organizations, including membership in honorary societies. For recent graduates, include competitive scholarships and fellowships as well as academic honors such as dean's list and graduation with distinction. If the award is particularly notable, consider also adding it as a bullet in your Highlights or Summary at the beginning. An Awards section for a recent BS chemist might look like this:

Awards:

- Iota Sigma Pi
- Phi Lambda Upsilon.

Professional Affiliations

Include job-related memberships in national, regional, and local professional organizations as well as any offices held. Avoid listing political or religious activities unless they demonstrate leadership ability. In this case, write in general terms to camouflage the exact identity of the political or religious organization. If you're



Letters of recommendation also may be helpful, as attachments to your résumé or to bring to the interview.

applying for a job that has certain memberships, certifications, or licenses as prerequisites, be sure to include them. Here's an example of Affiliations:

Affiliations:

- American Chemical Society
- ACS Student Affiliate Chapter, President.

Publications, Patents, and Presentations

Using a formal reference style (all authors, full title, and citation), list entries in reverse chronological order. (If you are unsure about formal reference style, consult *The ACS Style Guide*.) If you have numerous publications and/or patents, don't include the full list; instead, refer to the total number—perhaps mentioning a few particularly important items—and state that a full list is available as an appendix (or on request). Oral presentations usually duplicate published material, so list only important (invited or keynote) presentations on your résumé. However, because presentations also reflect public speaking skills, recent graduates can include them, if space allows.

References

If you recently received a baccalaureate degree or are a new PhD recipient or postdoc, list *at least* 3 professional references on your résumé. If you're employed in an ongoing position, and don't want your current employer to know you're looking for another job, do not put them on your résumé. Otherwise, list your current employer's name and contact information. (It's best if your reference and potential employer can speak to one another for live communication; it's also faster than letters and more personal than emails.) Most companies expect references from previous employers or, for new graduates, from professors and mentors. If possible, select your references from a combination of business and academic supervisors, instructors, and colleagues.

Contact references in advance to be sure they're willing to speak on your behalf, and keep them informed by providing a recent copy of your résumé.

Miscellaneous Considerations

Personal Information

Personal information (height, weight, health, marital status, age, gender, or race) doesn't belong on your résumé, nor should you include any photograph. Do not include hobbies (unless they're relevant to the job or reflect your skills or accomplishments).

Citizenship

Foreign nationals will be asked about visa status during the hiring process. If you are foreign-born but a citizen or a permanent resident, include your status on the



Do not include publications, patents, or presentations that are in progress or not yet accepted. Articles in press, however, can be listed.



References need not be restricted to former supervisors—they can be coworkers, consultants, or any other person in a position to observe your performance. Select references who can describe your attributes—clearly, accurately, and enthusiastically.



FOR NEW GRADS ONLY

If you are a recent graduate, you can use the same technique to describe your research and thesis work. Don't just copy your thesis abstract, but convey the main points in short descriptive phrases.

Explain why your research is unique, and try to illustrate how you can contribute to the organization.

If you are graduating with a bachelor's degree, present an outline of your coursework and laboratory work, including a discussion of any independent study or research.

It's also to your advantage to highlight any industrial experience (summer internships or co-op programs).

résumé. If you have a temporary visa, however, do not state this information. If there are no suitable American candidates for the position, the employer may be willing to sponsor a candidate for permanent resident status. This can be discussed in your interview.

Choosing Your Order and Format

At this point, consider the marketing aspects of a job search. What are you selling? What are the most important parts of your résumé? Remember that there is no single right way to organize a résumé. Use the order/format that best fits your needs and what you want to convey.

Recent Graduates

If you are a recent graduate, your education is the most important section of your résumé; so your résumé can be ordered this way:

- Heading
- Objective and/or Highlights or Summary
- Education
- Skills and Accomplishments
- Experience
- Awards
- Volunteer Work and/or Military Service (if applicable)
- Professional Affiliations
- Publications, Patents, and Presentations (if applicable)
- References

Experienced Candidates

If you've been out of school for 5 or more years, your education may no longer be as significant a factor as your Skills and Accomplishments or Experience sections. You might lay out your résumé as follows:

- Heading
- Objective and/or Highlights or Summary
- Skills and Accomplishments
- Experience
- Education
- Awards

- Volunteer Work and/or Military Service (if applicable)
- Professional Affiliations
- Publications, Patents, and Presentations.

Before You Continue

Ask a friend, colleague, or family member whose opinion you trust to read your résumé and provide feedback; you want to know whether it gives a clear picture of you and the employment you're seeking. Quiz the reader by asking what parts of the résumé he or she remembers. Are those the facts you want the recruiter to remember? Discuss any parts of the résumé that were unclear and rewrite them. Finally, ask whether your text conveys a sense of purpose and appropriate emphasis on your achievements. Is it an attractive package that is accurate, clear, and specific?



If your résumé exceeds 2 pages, you can include Publications, Patents, and Presentations as an Appendix. References can be on a separate page.



As a free service to ACS members, you're matched with a consultant—based on your needs—to assist with your résumé and other career-related issues. (See Appendix B)

Special Formats

Certain jobs and new technology sometimes call for a special résumé format, which are usually specified in the ad.

Electronically Scanned Résumés

New technologies have changed the job application process in many large companies. Résumés can be electronically scanned, prescreened, and stored for later reading by a recruiting or hiring manager.

The accuracy of this process depends on the software as well as the print quality of your résumé, so be sure the characters are distinct and clear.

Page Layout

Many problems with scanned résumés can be avoided if you:

- Use a standard font such as Times New Roman, Helvetica, or Courier and a font size of 10–14 points.
- Avoid bold, script, italics, underlining, graphics, and shading.
- Don't present data in columns; since the scanner reads across the line, it may be read incorrectly.
- Laser print in black ink on white 8.5 x 11-inch paper, 1 side only.
- Make sure you send an original or high-quality copy, unfolded in a flat envelope to avoid creasing, which may remove flecks of ink—leaving a blurred image unsuitable for scanning.
- Don't fax your résumé—it won't scan clearly.



Create a keyword summary at the beginning of a résumé to be scanned—including the common buzzwords in your field, along with your degree, specialization, and other unique details. This will guarantee your important keywords are captured in one place, even examine job ads to give you an idea of terminology the organization uses, including technical buzzwords.

Text Content

Some organizations use software to search for key words of interest, so be sure to include those terms. For example, if your specialization is “novel applications of asymmetric intra-molecular Diels-Alder reactions,” use “synthesis” and “natural products” as well. Without the relevant key words, your scanned résumé might not be considered.

Submitting a Résumé by Email or Applying Online

Many employers request that you submit a résumé electronically. It's fast, easy, and eliminates postage and stationery costs, but there are several factors to keep in mind.



Be cautious in submitting information about yourself online—a résumé posted online becomes public property, and could end up in places you don't expect or want. Your current employer may also stumble upon it while searching for other candidates.

- Beware of submitting your résumé as an email attachment. Because of computer virus concerns, an employer may be reluctant to open an attachment from an unknown sender. Instead, “cut and paste” your résumé into the body of the email or submit it as an attachment in plain text (without quotation marks, mathematical symbols, or tabs, for example).
- Try sending the résumé to yourself first to see how it transmits. If necessary, remove extraneous marks or squiggles and adjust the formatting.
- Place the most important information on the top half of the first page, with a keyword summary at the top of the résumé.

If you're applying online, go to the employer's website and “cut and paste” your résumé (plain text) into the online text box that would be part of the job application form. This method simplifies the employer's recruitment, screening, and selection process even more by making scanning unnecessary.

Curriculum Vitae

The curriculum vitae, used to apply for academic positions, is more detailed than the traditional résumé and tends to be longer.

Academic recruiters place more emphasis on your list of publications and presentations than do most industrial recruiters. Perhaps of greatest importance for an academic position is a description of your proposed research; it should be reasonable in scope and effort. Keep also in mind the institution to which you are applying. If you're applying at an undergraduate school, for example, your proposal shouldn't be designed for work with graduate students or postdoctoral fellows. You are expected not to sketch out your life's work but to outline the work you propose to undertake in 3–5 years. It doesn't need to be the length of a full proposal for example to the National Institutes of Health or the National Science Foundation. Here are a few tips:

- Keep your focus on originality, relevance, and fundability.
- Include requests for necessary start-up funds—with a budget for necessary equipment; this means you'll need to be knowledgeable about existing facilities.
- Discuss the time needed to complete the work.
- Describe which sources you would approach for support; be especially realistic about obtaining industrial funding (for example, junior faculty rarely obtain support from industry).

In addition to funds for capital equipment, typical start-up packages include money for supplies and expendables, student support (usually in the form of guaranteed teaching assistantships), and possibly a summer salary. Recognizing that there's normally some constraint on the amount available, but your request still should reflect the funding you need.



Make sure that you'll have the financial means to initiate (and continue) your research program.

Federal Job Application—OF-612

The OF-612 form is usually used when you apply for a federal government job. Although many federal jobs accept a modified (federal) résumé, it may be easier to use the approved OF-612 form, because the government requires very specific information. New applicants for federal employment also must complete Optional Form 306 (Declaration for Federal Employment).

Completing the OF-612 Form

Procedures vary across agencies, so follow instructions in the job announcement carefully. Write your name and Social Security number on each page; then be prepared to provide the following information:

- Job title in the vacancy announcement
- Government grade of the job
- Announcement number
- Full name
- Mailing address
- Phone numbers (day and evening)
- Country of citizenship
- Work experience (paid and unpaid experience related to the job; see details below)
- Education (starting with the highest degree; see details on the next page).

The Work Experience section requires several details for each position:

- Job title
- Employer's name and address
- Supervisor's name and phone number
- Duties and accomplishments
- Dates of employment (month/year to month/year)
- Salary (dollar amount/monthly or annually)
- Hours worked (weekly)



US veterans can gain hiring preference; attach DD-14 or SF-15 form.

Repeat this format for each relevant job starting with your current or most recent position. If you were employed previously by the federal government, you may be eligible for special consideration. Be sure to list that job in your work history, along with your series and grade.

For the Education section, use reverse chronological order until you reach high school. List:

- School name
- City, State, ZIP
- Semester or quarter Credits earned (if applicable)
- Major
- Degree
- Year received

Also include other qualifications in the application, such as:

- Recent job-related training
- Foreign language proficiency
- Computer and equipment skills
- Licenses
- Memberships
- Honors
- Leadership activities
- Public speaking experience
- Publications



Analyze your skills, making every effort to match them with a posted job's qualifications.

Submitting Your Application

Make sure your application or federal résumé is complete and covers any points mentioned in the announcement. Sign the form—your signature is required to vouch that all the information is true. Submit the completed Optional Form 306 if you're a new applicant. Be sure to send in your application by the deadline on the announcement (use first-class mail; certified or registered mail can take up to 30 days to deliver).

To request an OF-612 form or obtain more information, call the US Office of Personnel Management (478-757-3000) or visit their site (<http://www.usajobs.opm.gov>).

The Cover Letter

Always include a cover letter to present your résumé—personalized to the organization. Make it concise, to the point, and less than a page long—with these components:

- Reason for writing to the organization.
- Letter addressed to a specific person (whenever possible)—use full name and title; check all spellings.
- Responding to an ad—include its date, publication where it appeared, and the position.
- Referred by a mutual acquaintance—mention the person’s name.
- Unsolicited résumé—make every effort to find out about the organization to demonstrate how your accomplishments match its goals.
- Closing—request an interview and state that you will call to set up an appointment; then make sure to follow through.

See Appendix D for cover letter examples.

Targeting the Market

Do some fact-finding on the prospective employer so you can personalize your letter (and résumé) as much as possible. Request information by calling for brochures and annual reports, checking websites, accessing your professional network, or consulting any of the following resources:

- Thomas’ Register of American Manufacturers
- Moody’s Industrial Manual
- Directory of Directories
- National Trade and Professional Associations of the United States
- State Industrial Directories
- Chamber of Commerce Directories
- Dunn & Bradstreet Directory
- Standard & Poor’s Register
- Directory of American Research and Technology



Check and recheck your cover letter; any errors will damage your credibility and your chances.



If you are responding to an ad, include any reference number for the position as well as the source and date of the ad.

Résumé FAQ

(Frequently Asked Questions)

Q. Should I include professional affiliations?

A. Yes, if they're relevant to the job or if membership is a prerequisite. You may also want to list fraternal or community service organizations that attest to your integrity and civic-mindedness, but avoid listing political or religious affiliations.

Q. Should I include personal data?

A. Do not give personal information—height, weight, health, marital status, age, race, or religion. Don't include any photographs. List hobbies only if they're relevant and you truly feel it will help you get the interview.

Q. I've been in the workforce several years and have held many jobs. Must I include all of them?

A. For any information over 10 years old, consider mentioning it very briefly as a part of work experience and only if it's related to the job.

Q. Should I list volunteer work?

A. Yes, if it's pertinent to the job and supports your leadership, management skills, or ability to work on a team.

Q. I am not an American citizen. Should I list my visa status?

A. Foreign nationals will be asked about visa status during the hiring process. If you are foreign-born and a citizen or permanent resident, state this on your résumé. If you have a temporary visa, do not include this information. If there are no suitable American candidates for a position, the company may be willing to sponsor you for a permanent visa. If there's sufficient interest in your résumé, a prospective employer will ask about your visa status and decide on a course of action.

Q. How do I handle gaps in employment?

A. You are a prime candidate for using the skills-based résumé. As you can see from Résumé Examples 3 and 4 (Appendix C), this type concentrates on what you can do rather than where you have worked. Your skills should be listed before giving a brief employment history. If you've taken time off from your career, make sure that your skills (particularly in instrumentation) are up to date. Be prepared to explain any gaps in your employment history during your job interview.

Q. I am over 40 and have considerable experience. I'm willing to take a salary cut in a new position, but employers still tell me I'm overqualified. How can I use my résumé to solve this problem?

A. Read the job description very carefully and craft all parts of your résumé accordingly. The skills-based résumé is a useful format for disguising extensive education or experience, but be careful not to downplay your talents too much. Mention in your cover letter that you're willing to negotiate salary.

Q. Must I include an objective statement?

A. Although a career objective at the beginning of your résumé is not required, it is useful for capturing the reviewer's attention if you can make it specific. (It also helps you focus your thoughts as you compose your résumé.) Use this statement to describe what you want to do, choosing words that correspond to the job announcement or ad and customizing the objective for different employers. If you are sending numerous "blind" résumés, and the objective statement would therefore sound generic or canned, leave it out.

Bibliography



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Lewis, Adele; Grappo, Gary Joseph. *How to Write Better Résumés*, 5th ed.; Barron's Educational Series: Hauppauge NY, 1998.

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Weddle, Peter D. *Electronic Résumés for the New Job Market: Résumés that Work for You 24 Hours a Day*; Impact Publications: Manassas Park VA, 1995.

Yate, Martin. *Cover Letters that Knock 'Em Dead*, 4th rev. & ex. ed.; Adams Media Corporation: Holbrook MA, 2000.

Yate, Martin. *Résumés that Knock 'Em Dead*, 4th ed.; Adams Media Corporation: Holbrook MA, 2000.



ACS Department of Career Services



The American Chemical Society Department of Career Services exists to enhance the economic and professional status of chemical professionals by providing:

- Career assistance
- Contact with employers
- Information about employment data, trends, and issues
- Salary Comparator

Programs and services are offered in 6 categories (see details below):

- Career-related publications
- Employment services
- Local Section Career Program
- Personalized career assistance
- Workforce analysis
- Workshops and presentations

Employment Services

- NECH (National Employment Clearing House)
- RECH (Regional Employment Clearing House)
- *C&EN (Chemical & Engineering News)* classifieds and careers online (<http://www.cen-chemjobs.org>)

Personalized Career Assistance

- Mock interview sessions
- One-on-one career consultation
- Résumé reviews

Workshops and Presentations

- Career management
- Effective job searching
- Employment outlook
- Recruiters panel

Workforce Analysis

- Annual salary surveys
- Millennium Series
- Special studies

Local Section Career Program

Contact Karen Dyson, DCS, at 800-227-5558, ext. 4432 or email her at k_dyson@acs.org.

Career-Related Publications

- Academic Professional Guidelines
- Careers for Chemists—A World Outside the Lab
- Career Transitions for Chemists
- The Chemist's Code of Conduct
- Coping With Job Loss
- Early Careers of Chemists
- Employment Guide for Foreign-Born Chemical Professionals
- Interviewing Skills for Chemical Professionals
- Job–Search Strategies for Chemical Professionals
- Lifetimes in Chemistry
- Professional Employment Guidelines
- Resources for Career Management
- Résumé Preparation—Tips for Chemical Professionals
- What a BS/BA Chemist Should Consider Before Accepting an Industrial Position
- What a Chemist Should Consider Before Accepting a Government Position
- What a Chemist Should Consider Before Becoming a Consultant
- What a MS/MA Chemist Should Consider Before Accepting an Industrial Position
- What a PhD Chemist Should Consider Before Accepting an Academic Position



- What a PhD Chemist Should Consider Before Accepting an Industrial Position
- Women Chemists

These services are available to all ACS members—full members, national affiliates, and student affiliates. For more information, contact:

American Chemical Society
Department of Career Services
1155 Sixteenth Street, NW
Washington DC 20036
800-227-5558 ext. 4432
<http://chemistry.org/careers>
career@acs.org

Sample Résumés



The examples in this section each reflect a different individual's background. They're to give you ideas, not to be used as templates.

Examples 1–3: BS/BA and MS/MA Chemists

Example 1 is of a new graduate with no real-world experience, but who effectively describes his varied skills in the Experience section. In this first example, we show you how you might list references if and when required. However, if references are not explicitly requested, it is enough to indicate "Available upon request".

The individual in Example 2 is a mid-career chemist who provides varied details about his background in analytical chemistry under Experience (including information over 10 years old because of its relevance).

Example 3 is another mid-career chemist who is making a transition from classroom teaching to training in an industrial setting. She chooses a skills-based résumé to emphasize how her skills would transfer to a different type of work environment. (Customize by inserting prospective employer's name.)

The candidates in Examples 1 and 2 could have included Highlights or Summary; the decision not to include these was based on their individual circumstances.

Example 4: Experienced Chemist in Transition

In Example 4, the individual has a recent MBA in addition to a master's in chemistry. All of her relevant accomplishments are listed on the first page; her Education section comes next, followed by employment history and so on. Typically, an experienced candidate would list education near the end of the résumé. This individual, however, opted to accentuate her recent MBA by moving it to a more prominent position.

This candidate has a Highlights section and lists Accomplishments near the beginning to emphasize her managerial skills, which supersede her technical skills as she advances into a senior marketing position.

Examples 5–8: PhD Chemists

In Examples 5 and 6—for a recent graduate and a chemist with postdoctoral experience—education is listed after a Highlights section and immediately followed by Accomplishments (included under Experience).

Note that Example 7, a mid-career PhD chemist with significant experience, is currently employed but wants to keep her job-hunting activities quiet. She would describe the situation and the need to be discreet in her cover letter, indicating a willingness to provide current references as the interview process moves forward.

Example 8 is a sample Curriculum Vitae, with education listed first.

EXAMPLE 1: Entry-Level BS Chemist

JOHN T. LEIBOWITZ

2334 S. Austin Rd, Apt. B Atlanta GA 30301
404-555-1212 (home) 404-555-1212 (work)

OBJECTIVE

A challenging job in an industrial setting performing chemical syntheses and characterizations; the ideal position will offer diverse tasks and the opportunity to work with a team.

EDUCATION

BS, Chemistry, with Honors (ACS certified degree); minor concentration: Russian
Emory University, Atlanta GA (GPA 3.55/4.00), Expected 2003

Honors thesis: "Synthesis of bis-dipyridyl complexes of divalent transition metals"
Adviser: Professor Nina R. Young

EXPERIENCE

Research Assistant, Professor Nina R. Young, Emory University, 1999–Present

- Synthesized organic ligands and inorganic compounds, on large and small scales, using anaerobic techniques
- Produced complexes of divalent first-row transition metals; studied their interaction with dioxygen
- Characterized products with ^1H NMR, UV–vis, and IR spectroscopy as well as X-ray crystallography and magnetic susceptibility.

Teaching Assistant, Undergraduate Inorganic Chemistry, Emory University, Fall 1999

- Planned and led help sessions and recitations
- Coordinated materials, conducted lab sessions, and graded lab reports.



EXAMPLE 1: Entry-Level BS Chemist, *Cont.*

Computer Experience

- Navigate Mac OS, DOS, MS Windows, X windows, and UNIX
- Proficient in MathCAD, Excel, MS Word, AmiProd, MS PowerPoint
- Acquainted with Cambridge Structural Database and Inorganic Crystal Structure Database
- Able to learn new software quickly.

COURSEWORK

- Completed, in addition to required courses, graduate-level biochemistry (4 hours), instrumental analysis (2 hours), bioanalysis lab (2 hours), and computational chemistry lab (2 hours)
- Attended workshop/conference on bioinorganic chemistry.

AWARDS

- Grant recipient from the General Electric Foundation, Summer 1999
- College Honors Program (determined by GPA, research project, and thesis defense)
- Dean's List, June 1999–January 2002.

EXTRACURRICULAR ACTIVITIES

- Private music tutor (cello), 1994–Present
- Intern, Atlanta Food Bank, Fall 1997.

REFERENCES

Professor Nina R. Young, Department of Chemistry, Emory University, Atlanta GA
404-555-1212 n.young@emory.edu

Professor Rodney Tree, Department of Chemistry, Emory University, Atlanta GA
404-555-1212 r.tree@emory.edu

Professor James Orney, Department of Mathematics, Emory University, Atlanta GA
404-555-1212 j.orney@emory.edu

EXAMPLE 2: Mid-Career BS Chemist

Nicholas Smith
770 Broadway, Apt. 15J
Indianapolis IN 46206
Home: 317-555-1212
Work: 317-555-1212
nicholas.smith@erols.com

OBJECTIVE

A position that effectively uses analytical skills in wastewater management to improve prospective employer's environmental operations.

EXPERIENCE

1991-Present: Assistant Chemist, City of Indianapolis Water Utilities Department, Indianapolis IN

- Monitored quality of water source, sewage, and drinking water to ensure compliance with state and federal regulations
- Developed new testing procedures under US Environmental Protection Agency (EPA) regulations that made the analysis process more time- and cost-effective
- Operated Flame AA for alpha and beta particle activities.

1988-91: Chemist II, Mark Laboratories, Connersville IN

- Analyzed inorganic contaminated hazardous waste materials
- Coordinated analysis of SAIC contract programming
- Created quality control charts of contamination results.

EXAMPLE 2: Mid-Career BS Chemist, *Cont.*

1987-88 Laboratory Assistant, Water Management, Inc.,
Dearborn MI

- Assisted Senior Scientist with wastewater testing
- Managed database of lab tests and results
- Maintained lab and chemical supplies.

SKILLS

- Software Skills: Lotus 1-2-3, WordPerfect 5.1
- Thermospec Instrumentation: IR, AA, GC-FID/ICD, W/VIS, Digital Calorimeter, Auto Analyzer, Oxygen Bomb Calorimeter.

EDUCATION

- MSE, Engineering Management, University of Michigan, Ann Arbor MI, 1991
- BS, Chemistry, Indiana University, Bloomington IN, 1987.

AFFILIATIONS

- American Chemical Society
- National Society of Professional Engineers.

REFERENCES

Available upon request.

EXAMPLE 3: Mid-Career Chemist

TANYA L. MILLER

461 Starzak Road, Abington PA 19001
215-555-1212 (day); 215-555-1212 (evening)
tlmiller@att.net

OBJECTIVE

A position for training technical assistants in a research or manufacturing organization.

HIGHLIGHTS

- More than 10 years diverse teaching experience
- Supervisory and training experience in an R&D analytical laboratory
- Extensive curriculum development experience
- Industrial experience in organic techniques

RELEVANT SKILLS

Teaching

- Trained chemical technicians in production quality control
- Taught general and analytical chemistry at the college level (including laboratory sections)
- Taught physics and advanced chemistry at the high school level
- Instructed adults in remedial reading and mathematics

Supervising

- Supervised and evaluated the work of laboratory technicians
- Directed high school science fair
- Organized science symposia and workshops

Curriculum Development

- Developed appropriate supplementary materials, including a laboratory manual for qualitative analysis
- Created review and test materials; produced educational multimedia presentations
- Developed and/or modified laboratory exercises to satisfy safety, academic, and economic requirements
- Designed self-paced lessons to ensure student competency.

EXAMPLE 3: Mid-Career Chemist, *Cont.*

Industrial Laboratory Experience

- Performed qualitative and quantitative analyses for product quality assurance
- Tested for air and water pollution.

EMPLOYMENT HISTORY

1996–Present	Chemistry Department, Montgomery College, Rockville MD Faculty
1995–96	Anne Arundel County Public Schools, Annapolis MD Science Teacher, Secondary Level
1993–95	John Thomas High School, Bel Air MD Science and Mathematics Teacher
1990–93	Physical Sciences Department, Community College of Philadelphia PA Adjunct Faculty
1987–90	Williamsburg Public Schools VA Science Teacher, Secondary Level
1979–87	Boothby Tobacco Products, Westerville VA Research Chemist

EDUCATION

- Master's of Education in Physical Sciences, Virginia Commonwealth University, Richmond VA
- Bachelor of Science in Chemistry, Temple University, Philadelphia PA.

AFFILIATION

- American Chemical Society.

REFERENCES

Available upon request.

EXAMPLE 4: Experienced MS Chemist With a Recent MBA

Natalie K. Hamlin-Piper
4508 Oaktree Road
Banning CA 92220
909-555-1212 (h), 909-555-1212 (w)
Email: piper@wavenet.com

HIGHLIGHTS

- Master's in Business Administration with emphasis on marketing and finance
- Extensive experience in market research including focus group studies, database construction, and statistical analysis
- Excellent oral and written communication skills.

ACCOMPLISHMENTS

Market Research

- Researched new product opportunities, including competitive, feasibility, and financial analyses
- Developed marketing strategy, implementation, and evaluation plan for a new product
- Designed and conducted primary research for a new industry product and for a telecommunications/healthcare service
- Coordinated and carried out focus group studies for new high-tech services
- Carried out secondary research for market analysis of consumer goods, industry products, and telecommunications/educational services
- Developed protocols for data collection, database construction, and statistical analysis.

Management

- Designed, developed, and directed research projects
- Coordinated and supervised multidisciplinary project team
- Interacted with customers, sponsors, contractors, and consultants to guarantee timely delivery of quality services
- Supervised inorganic and organic analytical labs; trained assistants and co-workers in research and quality control/quality assurance methods.

Communication

- Delivered research results and business strategies in oral presentations
- Composed and edited technical documents for publication
- Wrote and edited contract proposals
- Created visual displays for business and technical presentations
- Designed marketing materials, posters, and brochures for trade shows.

EXAMPLE 4: Experienced MS Chemist With a Recent MBA, *Cont.*

Computer Skills

- SPSS, Excel, Quattro Pro, Lotus 1-2-3, Word, WordPerfect, AmiPro, PowerPoint, SlideWrite, Netscape, Eudora

EDUCATION

- MBA with emphasis in Marketing and Finance, San Diego State University (CA)
- MS, Environmental Science, University of Washington (Seattle)
- BS, Chemistry and Biology, Illinois State University, Normal (IL) (GPA: 4.0/4.0)

EMPLOYMENT HISTORY

- 1999–Present Marketing Consultant, Small Business Institute, Banning CA
- 1993–Present Senior Chemist and Project Manager, Computer Sciences Corporation
(contract with the US Navy's Remediation Research Laboratory), San Diego CA
- 1990–92 Research Scientist, Computer Sciences Corporation (contract with the
US Navy's Environmental Sciences Laboratory), San Diego CA

AWARDS

- Computer Sciences Corporation Award for Technical Excellence (1999)
- Employee of the Year Award, Computer Sciences Corporation's Systems, Services, and Technology Center (1997)
- Pride Employee of the Year Award, Computer Sciences Corporation's Applied Technology Division (1996)

AFFILIATIONS

- Mu Kappa Tau, National Marketing Honor Society
- Female Association of Marketing Executives
- American Chemical Society

REFERENCES

Available upon request.

EXAMPLE 5: Entry-Level PhD Chemist

ERNSTINE QUIGLEY

University of Iowa, 1436 14th Street
Dept. of Chemistry Iowa City IA 52240
Iowa City IA 52240 319-555-1212
319-555-1212
equigley@iowa.edu

OBJECTIVE

A research and development position in an industrial setting that calls for experience in spectroscopic investigations in heterogeneous systems.

HIGHLIGHTS

- Extensive experience in the investigation of photochemical reactions
- Modeling of the kinetics of heterogeneous reactions
- Industrial experience (summer intern program).

EDUCATION

- PhD, Physical Chemistry, University of Iowa, Iowa City IA, anticipated 2003
Thesis title: “Photochemical Studies of Heterogeneous Reactions in the Atmosphere”
Adviser: Professor Anton Bruckner
- BS, Chemistry (*summa cum laude*), Central College, Pella IA (GPA 3.60/4.00), 1997
Thesis title: “Computer simulation of ozone reactions”
Adviser: Professor J. P. Morgan.

RESEARCH EXPERIENCE

1997–Present Graduate Assistant, University of Iowa
Adviser: Professor Anton Bruckner

- Developed a new, highly sensitive technique for the measurement of photochemical reactions on heterogeneous surfaces
- Modeled the kinetics of heterogeneous photochemical atmospheric reactions
- Gained experience in all types of optical investigations of photochemical processes
- Led Advanced Physical Chemistry and Advanced Kinetics laboratories.

EXAMPLE 5: Entry-Level PhD Chemist, *Cont.*

- 1999, 2000 Summer Intern, Exxon Research and Development, Houston TX
- Studied gas-phase reactions on various heterogeneous catalysts of industrial importance using spectroscopy.
- 1997 Summer Intern, Iowa State University
Assistant in the laboratory of Professor Ivan P. Oakes
- Studied chlorofluorocarbons reacting with water droplets using spectroscopy.
- 1996–97 Undergraduate Research Assistant, Central College, Pella IA
Adviser: Professor J. P. Morgan
- Studied reactions of ozone both experimentally and theoretically
 - Used computer modeling.

AFFILIATIONS

- American Chemical Society
- Optical Society of America

PUBLICATIONS

- Bruckner, A.; Kline, B. J.; Quigley, E. “The detection of fluorocarbon–water complexes in the atmosphere.” *J. Phys. Atmospheric Sci.* 2002, 14, 428–431.
- Davis, J.; Quigley, E.; Bruckner, A. “A critical review of the kinetics of heterogeneous photochemical atmospheric reactions.” *Chem. Rev.* 2001, 45, 120–145.
- Quigley, E.; Bruckner, A. “A novel optical technique for the measurement of atmospheric chlorofluorocarbons.” *J. Instrum. Anal.* 2001, 135, 1214–1218.
- Quigley, E.; Morgan, J. P. “Computer simulation of ozone reactions.” *J. Phys. Chem.* 1998, 88, 124–126.

PATENT

- Peach, J. R.; Petrov, V.; Goldstone, W.; Quigley, E. Catalyst for the cycloamination of butenes, US Patent 4 333 219, March 24, 1997.

REFERENCES

Available upon request.

EXAMPLE 6: Chemist With Postdoctoral Experience

RANDOLPH R. REGAN

Sandia National Laboratory, Chemistry Division, Albuquerque NM 87185
505-555-1212 rrregan@sandia.gov

1436 14th Street, Albuquerque NM 87101

OBJECTIVE

A research and development position that emphasizes creativity in new instrumentation for analyzing biologically important materials.

SUMMARY

- Developed new techniques for the analysis of biomolecules
- Extensive experience characterizing RNA samples
- Strong background in ultrafast laser spectroscopy
- Investigated interfacial phenomena by using new spectroscopic techniques

EDUCATION

- PhD, Chemistry, University of Chicago (IL), 2000
Thesis title: "Studies of Structure and Dynamics of Liquid Supported Monolayers"
Adviser: Professor Wilson Albright
- MS, Chemistry, University of Chicago (IL), 1997
- BS, Chemistry, University of Southern Florida (Tampa) 1995
Thesis title: "Photochemistry and Photophysics of Cyclopropylphenols"
Adviser: Professor Stuart Anthony

RESEARCH EXPERIENCE

2000–Present Postdoctoral Fellow, Sandia National Laboratory, Albuquerque NM
Mentor: Dr. Harold Ickes

- Developed novel signal amplification for detecting and sizing single RNA samples
- Designed and implemented an efficient system for the mass spectrometric separation and identification of individual molecules.

1995–00 Graduate Assistant, University of Chicago (IL)
Adviser: Professor Wilson Albright

- Maintained operational responsibility for Professor Albright's laser facility for the measurement of ultrafast kinetics of chemical phenomena in bulk liquid and at air–water interfaces
- Investigated the molecular properties, orientation, kinetics, and relaxation phenomena at liquid and solid interfaces by nonlinear optical techniques
- Led Advanced Physical Chemistry and Optical Methods of Analysis laboratories.

EXAMPLE 6: Chemist With Postdoctoral Experience, *Cont.*

- 1993–95 Undergraduate Research Assistant, University of Southern Florida
Adviser: Professor Stuart Anthony
- Studied photochemistry and photophysics of p-cyclopropylphenols both experimentally and theoretically.
- 1993, 1994 Summer Research Assistant, Oak Ridge National Laboratory (TN)
Mentor: Dr. Leopold Wiseman
- Studied chlorofluorocarbons excited by gamma radiation using spectroscopy.

AFFILIATIONS

- American Chemical Society
- American Physical Society
- Optical Society of America.

PUBLICATIONS

Albright, W.; Regan, R. R. "A critical review of the structure and dynamics of liquid supported monolayers." *Chem. Rev.* 2001, 45, 320–362.

Davis, B.; Regan, R. R.; Ickes, H. "Method for the preparation of monolayers of denatured RNA." *Biol. Chem.* 2001, 111, 124–127.

Regan, R. R.; Davis, B.; Ickes, H. "The detection of monomeric RNA samples." *J. Biol. Chem.* 2001, 104, 4439–4445.

Regan, R. R.; Albright, W. "A novel signal amplification for the detection of single RNA samples." *J. Instrum. Anal.* 2000, 134, 214–218.

Regan, R. R.; Anthony, S. "Photophysical analysis of p-cyclopropylphenol." *J. Chem. Phys.* 1998, 108, 1022–1023.

REFERENCES

(This candidate would list a variety of academic and industry references.)

EXAMPLE 7: Mid-Career PhD Chemist

JANE WONG LEE

927 River Road
Stamford CT 06901
203-555-1212
James.Lee@worldnet.att.net

OBJECTIVE

A new product development management position in the specialty chemical industry that emphasizes a broad background in synthesis, formulation, and process.

SUMMARY

- Proven track record in organic synthesis, formulation
- Success in process and product development
- Experience in specialty, industrial chemicals, and petroleum industries
- Creative and well organized
- Strong problem solver.

MAJOR ACCOMPLISHMENTS

- Launched a novel process for sophorane diisocyanate by using a highly selective catalyst
- Upgraded company's line (melamine and acrylamide) to innovative products for coatings, adhesives, cement additives, paper sizers, rubber adhesion promoters, binders, and flame-retardant materials
- Succeeded in process development and preparation of ultraviolet stabilizers for sunscreen, plastic additive, and intraocular lens including developing photochromic polyurethane coatings for polycarbonate CR-391 lenses
- Introduced a new series of potassium silylalkylamides to the pharmaceutical markets resulting in annual sales of \$50,000
- Developed cost-effective synthesis for aromatic isocyanates MDI/PMEPI by non-phosgenation route
- Formulated a proprietary process for the production of para-methylstyrene
- Upgraded C-4 stream to potential premium products in specialty applications (corrosion inhibitors, scale inhibitors, biocides, and rubber chemicals)
- Created proprietary formulations and flood processes to recover residual oil from high brine reservoirs; established simple tracer systems to determine flow patterns.

EMPLOYMENT HISTORY

- 1987–Present** **Senior Research Chemist, Chemicals Division, Dow Chemical, Stamford CT**
Conducted R&D of new products and processes to increase the profitability and competitiveness in various business areas.
- 1986–87** **Research Chemist, Organometallics and Intermediates,**
Acme Safety and Appliances, Pittsburgh PA

EXAMPLE 7: Mid-Career PhD Chemist, *Cont.*

Upgraded alkali metal raw materials to premium products; synthesized key intermediates and samples of synthetic pyrethroid insecticides for customers.

1984–86

Research Chemist, Chemicals and Minerals,

Lakeland Science and Technology Company, Pittsburg KS

Developed processes for isocyanates, para-methylstyrene, and new product research from C-4 feedstock.

1983–84

Research Chemist, Alternate Resources and Lubrications,

Glade Research and Development, Princeton NJ

Researched and developed processes to enhance oil recovery.

1982–83

Postdoctoral Fellow National Institutes of Health, Chemistry Department,

California Institute of Technology, Pasadena CA

Participated in team to establish mutagenicity-structure relationship and activation mechanism of tryptophan pyrolysates; designed and synthesized amino acid tryptophan pyrolysate analogues.

1981–82

Project Investigator, Chemotherapy and Pharmacology,

National Cancer Institute, Bethesda MD

Synthesized chemotherapeutic agents, coformycin and hycanthonone, and radiolabeled compounds; prepared derivatives for metabolites identification in pharmacological study.

AWARDS

- American Men and Women in Science

AFFILIATIONS

- American Chemical Society
- Society of Plastics Engineers.

PATENTS AND PUBLICATIONS

A complete list of patents and publications is available on request; it includes:

- 68 US and international patents
- 16 publications in refereed scientific journals
- 22 publications in trade magazines and journals
- 14 oral presentations at national and international conferences.

EDUCATION

- PhD in Chemistry, Rice University, Houston, TX
- BS in Chemistry, National Taiwan University.

REFERENCES

Available upon request.

EXAMPLE 8: Curriculum Vitae

Eugene Timmons

Laboratory of Organic Chemistry	eugene.timmons@org.chem.ethz.ch
Swiss Federal Institute of Technology (ETH)	+41 1 632-4430 (lab)
ETH Honggerberg–HCI F330	+41 1 362-7933 (home)
CH-8093 Zurich Switzerland	+41 1 632-1486 (fax)

EDUCATION

- PhD, Chemistry, August 1998, Cornell University, Ithaca NY
- MS, Chemistry, September 1995, Cornell University, Ithaca NY
- BS, Chemistry, May 1992, Pennsylvania State University, State College PA.

RESEARCH INTERESTS

- Mechanistic enzymology, with an emphasis on natural product biosynthesis
- Enzyme evolution, with an emphasis on understanding the origins of substrate specificity, allosteric interactions, and enzyme complexes
- Protein engineering and design
- Developing and applying combinatorial methods in biology

RESEARCH EXPERIENCE

1998–Present, Postdoctoral Fellow

Swiss Federal Institute of Technology (ETH), Zurich Switzerland, with Prof. Eric Hubbert

- Designed and constructed very large (>108 members) random gene libraries to investigate the frequency of occurrence of catalysts in protein sequence space.
- Using binary patterning, 8 of the 20 standard amino acids, and chorismate mutase as a design scaffold, selected catalytically active variants at a frequency of 1 in 10,000 from a library that was 80% randomized versus the wild-type sequence.
- In a related project, used iterative cycles of directed evolution and genetic selection to produce 40-fold improvements in the catalytic efficiency of a novel engineered homo-hexameric chorismate mutase.

1992–1998, Graduate Studies

Cornell University, Ithaca NY, with Prof. Richard Barrett

Thesis title: “The Biosynthesis of Thiamin in *E. coli*: Biosynthesis of the Thiazole Moiety”

- Used several approaches in investigating the biosynthesis of thiamin, including chemical synthesis of thiazole precursors, purification and characterization of several *E. coli* and *B. subtilis* enzymes involved in the biosynthesis, and use of high-resolution mass spectrometry to track the generation of transient protein modifications during the sulfur transfer.

EXAMPLE 8: Curriculum Vitae, *Cont.*

1991–1992, Undergraduate Research

Pennsylvania State University, State College PA with Julia P. Huang

- Expressed and purified 6 mutants of sperm whale myoglobin from 80-L fermentations and measured their rates of heme orientation isomerization using paramagnetic region NMR spectra
- Discovered that long-range mutations exert a strong influence on the binding site of myoglobin

PUBLICATIONS

A full list of 15 publications is attached.

TEACHING EXPERIENCE

- Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

Fall Term, 2001

Lecturer, Biological Chemistry I, an introductory biochemistry course for chemistry majors (presented eight 90-minute lectures)

1998–2001

Supervised a PhD student, 3 MS students, and 2 undergraduate students

- Cornell University, Ithaca NY

Directly supervised 4 undergraduate students

Fall Term, 1996

Teaching Assistant, graduate-level biological chemistry course

Teaching assistant, introductory organic laboratories and lecture courses

- Pennsylvania State University, State College

1991-1992

As a Chemistry Department tutor, conducted review sessions for general and introductory organic chemistry, and held one-on-one help sessions for students.

AWARDS AND AFFILIATIONS

- NIH Biochemistry Training Grant (1996–1997)
- NIH Molecular & Cell Biology Training Grant (1993–1995)
- Teas Scholarship in Chemistry, Pennsylvania State University (1990–1991)
- American Chemical Society Member.

REFERENCES

(This candidate would list academic/research references.)

Sample Cover Letters

EXAMPLE: Cover Letter, PhD Chemist



March 23, 2003

Dr. James Swanson
Personnel Recruitment Manager
XYZ Laboratories
1234 Flower Street
Cincinnati OH 45201

Dear Dr. Swanson:

I expect to receive my doctorate degree in analytical chemistry in June 2003, and am writing to explore the possibility of employment as an analytical chemist at your Cincinnati location.

During my coursework at Ohio State University, I began to consider future employment with XYZ Laboratories. We used many of your instruments in our laboratory research, and I found their design, precision, and reliability impressive. I'm well qualified for a job with your organization—with the confidence, maturity, judgment, and references to back up my qualifications.

The enclosed résumé provides details about my work experience and background. I would appreciate the opportunity to meet with you to discuss how my education and experience can benefit your laboratories. I'll call within a week to discuss the possibility of an interview.

Sincerely,

Amy Amers

Enclosure

EXAMPLE: Cover Letter, BS Chemist

June 14, 2003

Dr. Joe Barlow
Corporate Recruitment
Research Laboratories
Eli Lilly and Company
Indianapolis IN 46285

Dear Dr. Barlow:

I am writing in response to the Eli Lilly report in the *CPC Annual*. In May 2004, I will be graduating from the College of William and Mary with a bachelor's degree in chemistry. I plan to pursue a career as a synthetic research chemist after graduation.

Through participating in undergraduate organometallic synthetic research for the past 18 months, I have developed and improved valuable laboratory skills. The goals of my research project include optimizing reaction conditions and purification methods for each of the 4 steps in synthesizing the unreported ligand, 4'-cyanobenzo-18-crown-6, and its rhodium complex. I'm studying binding and extraction constants for the ligand and complex as well as behavior changes at the rhodium center by UV-vis and NMR spectroscopy. Last January, I presented this work at the Virginia Academy of Sciences in Blacksburg. Next month, I will present current results at the National Conference of Undergraduate Research in Kalamazoo, Michigan. Final results will be summarized in my honors thesis.

I look forward to the opportunity to interview for a position with Eli Lilly and will call you next week to confirm receipt of my résumé. Thank you for your time and consideration.

Sincerely,

Thomas E. Lee

757-555-1212

Enclosure

