# The Association of Chinese Food Scientists & Technologists in America

# 會誌



#### NEWSLETTER

Statement of Position and Editorial Note
A Letter for the President - Anthony H. Chen
Report from Employment Communittee - Chifa Lin
A Letter from the Membership Committee Chairman - George C. Chu 3
Report of Publication Committee - Peter Wan
Report from Forum Chairman — George C. Chu
Results of 1983 Forum Survey 6
1983 Annual Meeting Highlig hts - Santa H. Lin
國建会食品科技组言已实一陳存傑9
Swift & Company - Grace Yan g
Richard B. Russell Agricultural Research Center - Catharina Ang 12
Food for Space Flight - Pro∨ided by C. K. Kuo
How to Exchange Ideas -Stephen Chang 19
Treasurer's Report - J. C. Jao
Ballot
Membership Dues Form
New Members

VOLUME 6
NUMBER 🗶 1



SEPTEMBER 1983

# 旅美中國食品科技學會

## The Association of Chines Food Scientists & Technologists in America

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#### STATEMENT OF POSITION

陳慶筠 Consulting & Workshop Anthony H. Chen

朱正中 Membership George C. Chu

馮貽澤 Award Daniel Y. C. Fung

#### 林啟發

Employment Chifa F. Lin

林輝正 Annual Meeting Santa H. C. Lin

林信南 Advisor Sherman S. Lin

吕秋娟 Student Affair Sheree C. C. Lin

萬建心 Publication Peter J. Wan

薛維誠 Legal Counselor Robert Hsueh The Association of Chinese Food Scientists and Technologists in America (ACFSTA) is a non-political and non-profitable ethnic Chinese organization dedicated to the scientific and professional betterment of its members. The members of ACFSTA wish to interact with all Chinese scientists wherever they may reside based on common cultural and scientific interests.

ACFSTA takes no political stand or preference. Selection of material for all ACFSTA publications is based on the scientific content and general interest. Any inadvertent political connotation should not be deemed as the official position of ACFSTA.

#### EDITORIAL NOTE:

- In order to establish a non-profit organization status with IRS, we first have to select a name agreed on by the majority of our members. Please cast your vote on the last page of the Newsletter.
- Some of our members are quite active in their professional circles. We, as editors, would like every one of you to share your valuable experience with other ACFSTA members. In this issue we have an article about 国建 文 by 京有 祭
- · With the permission of Professor Stephen Chang (美国四洋教授), we printed the address he presented at the 1983 Forum at New Orleans. I trust you will find it is a powerful speech and a useful guide for all of us.
- From various commutatee reports and our president's letter, it is clear that we will have a lot of activities for this fiscal year. If you would like to participate in any of these projects or committee programs, please inform the person in charge.

#### A LETTER FROM THE PRESIDENT

#### Dear Members:

I am happy to report to you that the ACFSTA annual meeting held in New Orleans last June was very successful. The forum was well organized and well attended. A special thanks to George Chu and Dr. Stephen Chang for making the forum a successful and memorable event. The annual meeting and banquet were effective and enjoyable. I would like to give my thanks to Santa Lin for his efforts in organizing these activities.

Many things have happened since my report to you in the last issue of the Newsletter (Vol. 5, No. 2). Following are the highlights of recent activities.

- · Dr. Stephen Chang won the first ACFSTA Professional Achievement Award.
- Ms. Sheree Lin of Kansas State University was awarded the first ACFSTA Student Achievement Award.
- · Five of our members participated in " 國建會" recently held in Taiwan.
- In the coming October, six of our members will be giving a symposium and workshop in Peking and Chungking. This project is sponsored by the United Nations Development Program.
- The executive committee has endorsed forming a federation of professional Chinese societies. This federation, if successfully formed, will include the following professional organizations: Association of Chinese Food Scientists and Technologists in America, Overseas Chinese Environmental Engineers Association, Chinese American Association of Mass Spectroscopists, Chinese American Polymer Society, Overseas Chinese Packaging Association, and Chinese American Chemical Society.

- Due to personal reasons, An gel Yang has resigned from her post as Secretary. I would like to utilize this opportunity to thank Angel for her past support. Iris Lee of Anheuser-Busch has accepted the responsibility of serving as the Secretary for 83/84. I am glad that Iris has taken up the challenge, and I am looking forward to working with her.
- In the past few years we have spent much effort to lay a sound foundation for the ACFSTA. Now we are ready for further growth, but we need your help. I am pleading with each one of you to help our association's growth by recruiting one new member. If each of you can accomplish this challenge, our association could double in size within the next year. For any organization to double in size within a year is considered phenomenal. I know that ACFSTA is a phenomenal organization. With your help, let's prove it to ourselves and to the world.

Best wishes.

Yours truly,

Tony Chen President

#### REPORT FROM EMPLOYMENT COMMITTEE

- Any member who would like to have his or her resume critiqued by experienced professionals, please send it to Chifa Lin, Food Ingredient Section, Stauffer Chemical Co., Dobbs Ferry, NY 10522.
- From time to time, there are head-hunters called to look for candidates with a certain sepcialty or background. If you are looking for a job, we encourage you to file a resume with the employment committee.
- · Here are several job openings which might be useful to you:
  - Two Ph.D.s are needed one specializing in snack food and one in dietary. If you are interested, please contact Dr. Neil Doty, Director, Product Development, General Nutrition Corp., 1301 39th Street, N., Fargo, ND 58102, telephone: (70 → 282-2300.
  - Ph.D. or M.S. with baking and snack food experience. Contact Dr. Iris Lee, Anheuser-Busch, Iric., 1101 Wyoming, St. Louis, MO 63118, telephone: (314) 577—2583

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July 8, 1983

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萬建心 Publication Peter J. Wan

薛維誠 Legal Counselor Robert Hsueh Dear ACSFTA Member:

During our ACFSTA Annual Meeting at Asia Garden Restaurant this year, I had the opportunity of listening to the many activities and accomplishments of our organization. I have been impressed by the increasing scope and significance of many functions; impressed by the wealth of talent in our membership and impressed by the dedication, interest and capability of many individuals working on different committees.

However, one of the most important goals set up by our president is to expand our membership to 50%. To reach the goal, just simply recruit at least one of your friends or classmates to be a member for the coming year. If you are proud of this organization and you would like to see it grow, I am confident that you can do it. As you are aware, when the organization grows, then we can have a stronger voice in IFT, as well as in the food industrial circles. In order to encourage our members to fully participate in this meaningful task, association will announce the recognition to whoever recruits the most new members.

As Chairman of the Membership Committee, I am challenging you and am willing to work harder with you to accomplish this goal. Thank you very much.

Very truly yours,

George C. Chuk

GC/ds

親爱的含友们 请鸡罐参加此项微 扶托会友的话勤 謝!

末正中教上

#### REPORT OF PUBLICATION COMMITTEE

#### Peter Wan

• During the fiscal year 83/84, we will publish four issues of NEWSLETTER. The tentative schedule will be:

		DEADLINE FOR	NEWSLETTER TO BE MAILED	
VOL.	<u>NO</u> .	MANUSCRIPT	First Week of:	
6	1	8/25/83	September, 1983	
6	2	11/25/83	December, 1983	
6	3	2/25/84	March, 1984	
6	4	5/25/84	June, 1984	

- · You are invited to write or provide any articles in the following four areas:
  - A. Introduction of the company or research institute you are working with.
  - B. Technical paper about **an**y scientific or engineering subject which interests you.
  - C. Career or professional improvement articles.
  - D. Any other professional activities of our members.
- · Agreements have been reached with the local representative of the Chinese Daily News (世界日本). We will provide translated or original articles with 1500 words each. There will be a token payment (\$10-15) for each article printed. This special section title will be selected by the Editor of the Chinese Daily News from the many names suggested by you. If you are interested in this exciting activity, please notify P. J. Wan or sign your name on the last page of this newsletter.
- If you have any suggestions or comments about the content, or ways of improving the quality, of the Newsletter, please call or write to P. J. Wan.
- · We recently received 20 copies of the FIRDI (食品工業研究所一新的) 1982 Annual Report from Dr. Paul Ma. Anyone who would like to have a copy, please inform P. J. Wan.
- For the new Directory you received, please make the following corrections and changes.

#### OFFICERS:

Secretary Iris C. Lee (314) 577-2583

#### COMMITTEE CHAIRPERSONS :

Consulting & Workshop William T. H. Chang (607) 974-4393
Membership George C. Chu (205) 355-8815

#### EXECUTIVE COMMITTEE:

Please replace Chu H. Tzeng (1982-84) with Angel A. C. Yang (1982-84).

#### REPORT OF 1983 FORUM CHAIRMAN

#### Dear ACSFTA Member:

Our forum was successfully held at IFT's Annual Meeting at the Hyatt Regency Hotel. There were forty-three in attendance. Both speakers delivered a superior speech, which blended with their humor, spirit and most importantly, their precious experience. Our survey showed that the audience greatly benefited by their presentation (see our survey).

On behalf of ACFSTA, I want to express our sincere thanks again to Dr. Steven Chang and Dr. Anthony Chen for their diligent efforts and wonderful presentation.

Very truly yours,

George C. Chu

From:

PROGRAM & ABSTRACTS

#### CHINESE FOOD SCIENTISTS TO MEET

The Association of Chinese Food Scientists & Technologists in America will hold its annual meeting on Monday, June 20, from 3:00pm until 5:30pm in Poydras Ballrooms A&B of the Hyatt Regency Hotel. Dr. Anthony Chen, president-elect of the association will update the progress of all joint projects with Chinese governments and outline future business of the organization. A forum — "How to be Successful in Your Career" — will be held during the meeting. The forum will be followed by a cocktail hour.

#### RESULTS OF 1983 FORUM SURVEY

During the ACFSTA forum, twenty-nine survey forms were collected. The results are summarized and reported in the following:

- (I) a. All said they felt they were greatly benefited by the forum.
  - b. They thought the forum was just right; only one person thought it was too short.
  - c. They all thought the topics were good.
- (II) Suggestions for future topics:
  - a. Should add small group discussion.
  - b. Communication Skills
  - c. Technical or Research Subjects
  - d. Current Food Industry in Taiwan
  - e. How to Organize All Chinese Strengths
  - f. Dealing with Cultural Barriers
  - g. How to Find a Job
  - h. How to Get a Job for Freshly Graduated Students
  - i. Career Development
  - j. How to Deal with People
  - k. More of the same type of topics.
- (III) Suggestions for future speakers:



- (IV) Other comments:
  - a. Use Chinese to present all the speeches.
  - b. Need more audience.

#### 1983 Annual Meeting Highlights

# 米年曾有感米

Santa H. Lin

**持**輝正

New Orleans, New Orleans, and New Orleans! What a familiar and unique place it is for ACFSTA. This is the place where ACFSTA was founded (1974), and the third time we had gathered here to enjoy the French Cuisine, to stroll along Bourbon Street and to renew old acquaintances.

Unfortunately, many of you did not have a chance to come and help us celebrate our annual events because of inflation, budget cuts, poor timing, etc. Maybe you will be smarter next year and save enough money, plan ahead, and join us in Anaheim. For those who had attended our meeting, I hope that it turned out to be more fruitful for you than what you had expected.

Again, we had a successful Forum in which two of our distinguished members presented valuable techniques and guidelines for career development and advancements. The attendance grew from 35 in the beginning to more than 50 at the end. Dr. Stephen Chang clearly analyzed our common mistakes and weaknesses in expressing and exchanging our ideas. He also illustrated the do's and don'ts in communication based on his many years of experience and practice. He has set many good examples for us to follow. He also convincingly offered several effective and powerful tools for overcoming our weak points and to further excel at what we can do best.

Dr. Tony Chen, without exception, once again shared his hard-earned thoughts with us. He not only showed us that we need to know how to be promoted in order to gain promotion, but also revealed the entire secret process of promotion and the essential elements involved. Your ability would have to be properly recognized and then tested before you have a chance to be promoted. Therefore, be prepared, set an aggressive objective, and work toward it.

Our annual meeting and banquet were held at Asia Garden. Unfortunately and disappointingly, we had a record low turnout of only 64 guests to fill the 120-seat banquet room. With a minimum of 80 guaranteed reservations, we had to end up at a loss in providing this banquet. Although our experience told us that we were taking a risk by arranging a much smaller banquet than normal (usually about 150) we were willing to accept the consequences if many did show up, but Murphy's Law really worked on us. And this time, it even worked in the opposite direction. We had exceptionally fewer member and foreign guests attending the IFT meeting. The only consolation was that everyone got more than enough food to eat. It is time again for us to evaluate whether there is a need for a banquet during our annual meeting, or how we can improve it. It takes lots of preparation and arrangement to set up a banquet, but it is inherently easy for us to miss the head counts and mess up the preparation. (If you have any suggestions, please let's hear from you.)

The business meeting was highlighted by our President's report. He stated that our association is growing steadily and is becoming more technically oriented and healthier as a scientific organization. We have improved our visibility and gained better recognition through many committee activities. For example, our Forum and meeting were announced in the official IFT program brochure, employment assistance was provided to many of our members, and consultation was offered to meet the needs of our homeland. We should be proud of being able to work together toward this new direction.

Three special awards were presented during the meeting. Dr. Stephen Chang received the AFSTA's first Outstanding Professional Chinese Food Technologist Award, Ms. Sheree Lin from Kansas State University earned this year's Outstanding Chinese Student Award, and Dr. Sherman Lin received the Past President Appreciation Award.

As the meeting and banquet came to an end, I wished that many more members could have been present. I hope that you will make up what you have missed by reading this newsletter and the texts of Drs. Chang and Chen's presentations, and try your best to come to join us in Anaheim next year.



#### RECENT PROMOTIONS

George C. Chu has been promoted to Director of Technical Service. George is also in charge of Process Engineering.

Peter J. Wan has been promoted to Manager of New Technology.

Please share your recent adventures, successes, promotions, etc., with other members. This type of message should be sent to P. J. Wan, Anderson Clayton Foods, 3333 N. Central Expressway, Richardson, Texas 75080.

# 團進會 愈的科友组化实

以審方國家所致力整應再集也重整科发馬主題的X+=年國建分在 以用+小的 审查到 七月二號的結束 馬期 面图 . 专有 119 位國內計入自生席。今年 的國建分分主理讨论,自由是 電腦教育及电腦 紅學组 . 芭惠工程组,生物 投術组 流行代款杨研充组以及包盆科技组 . 这五个事题 万茂 初和 知分大 最贴生活有潮,透过保镖性介的報等 11 题就今大家的了解和自心 同时希望指 引起新的科技使自己国内介绍成是 。 會議 期 同 1年1 英同 20 节日 4 各组员 化公同的地类分词 影浴的。

化五组积配合品科及组的出席人就了这最为圆针,13人函圈内 6人。圆针的出席人员全部来自美国。 全部科及组内 7 细分五个十组, 从到 8 资况为组,包管小组, 2 张小组, 4 展升组以及 图 品 4 地, 3 海的主要她是是 展发会的 401 重 领感及副领露从训 為 毛 岩 反 付 4 人 体 8 车 传 4。

全面科技组成第一个活动是无公别的名言天参观了行称治州的居至最初中心,大家和对心中主要陶房把的居葬宣科系统成科学趣。这项参观自制的主要是下午由唐付来,张文鸿、毛东文、殷育庵及黄中平沿住生之所之行的发现为组讨福创、三个了十时的时间,四个要题演辑之处剩下一些时间讨福创的研究所加热的设立食品适识中的的车等计例,使人部份的国外不序人或都没为发讯的收集是需要的,他如果由它任真定是投出 赛季资料中心的调可以省级市价走油水 时间不够 医确讨漏 不了了。

學期的界: 是四面外食品科技组合成三个方理团之间的生命人复刊到多几分别参视了必讨备于趋有层的星森加工。食品色笼以及水面层的对加工设施。在节四文的黄昏更合於台中市的台中的社。

会期为五尺的分组讨论导放是 m2仓品总影的到海向,由唐如麟,胡随志, 记得军民孽统隆诸位艺术共同主持 她失行各中中央大学会科系的大清堂 多达 讨论会列席的事者及尽权人负相当的生而且讨论的竞型创政,由於生命人自从高品当天下下义是从前回到公和,讨论会世纪有五十千三是经来

免期了:国的图一与的名词对完是水壳加工折磨向,由温领房、是深明 在海童可目的包含有下户的名词对完是里底加工新磨向,由考虑的方祖虚 民港考定的这些行行而会的过程大致执似,是由团外的出席人员作导题 演情,再承项地解各及讨论由团内预定的单備的问题,时间对您是是不特用 从对。您觉的讨论的時间不够

會期了:國的國二年、公銀研究的專題是內面加工新國的由廣剛是畫玩 黄山话说证公及章看的其同主持。在三个專題這清之假為手证剩了为時向可以 你有效的讨論。考定了了是所有五銀團外勾俸人負有如為它是的確從公、銀型 降從至一再算明及演讨論会主題以外的事可提及是行了的向題还是和主題 脫離了南京電科校工作者对其他的爭思趣有電、並沒有重團的場面出現

會期有2個的過三、全種的出席人負可沒很努力如你保含討滿尺擔言研究指海、由充知道持度是在许公到食品科技组複繁更是各种必要把印度结缔有出来或是死行三美有某到会将,看其经济取益专港(治 心認為行海及建議2可能解支持, 从 投一些做不面且用有辦不到的建議 必须调要结果。而不是討海部海到事了。 是二天我的超级海更新修改。为组订海市等结果了。 电射气圈的图如片整个圈建会的研究结缔综合致各类以来而是了

得合度百科超级的过滤中圈内最感变凝的可证是能有圈降市场的惨鹛 包含每日死运动圈外的安全看提出了十四项加工度各价各圈内有固单行的分段。 无其是换酸了圈内对使原食品及自测度占群医潜力的磨视。侧的外的写探。 都同意加工食品的四外鳍一接重要而在提高患者底留的加工批单上在作更复 改度 重接取 雙环是 縱逐一解決 而題。时稍远,由有固建设力差都从,会作定的确定。 像品对较组的追議 項目的,是要的包括了建立患者和反应会级 松葵色笔及磨鳞条烷 空血运管副度 牧集圈外赠售车端高价 日科校费用 以及对仓品的 乙酸融的槽等好学,由户概略的最格和行车

銀不期望自义的祖圆高佐康朱派不希望自义的"棍"是代亲土、《宴》的一个家社会福记有利的之作许了治州帝人及幸高一次会基心总献自己智晓的章和股委以这一取代作义总高和李的传来

#### SWIFT & COMPANY

#### Grace Yang

Swift & Company began when Gustavus F. Swift of Massachusetts, at the age of 16, borrowed \$20 to buy cattle and sold them for a profit in 1855. In 19 years, the company grew into a prosperous operation and was headquartered in Chicago. The company's move west was based on the belief that Chicago, the railroad center, was destined to become the nation's largest livestock market. In the next 100 years, Swift & Co. expanded and became one of the largest food processors in the country.

In 1973, during the reorganization of Swift & Co., Esmark, Inc. was formed and became the parent company of Swift. (Besides Swift, Esmark now also owns Playtex, Estech, Eschem, and Estronics, Inc.) In 1980, Swift's fresh meat and processed food businesses were separated. It thus created two independent companies: Swift Independent Packing Co. for fresh meat operations and Swift & Company to handle the processed meat, poultry, cheese and assorted product business.

At the present time, Swift is divided into five business groups:

Process Meats: Includes Sizzlean/Firebrand bacon strips, Brown'N Serve sausage,

Hostess Ham, Swift brand dry sausages, Lazy Maple bacon, Swift

turkey roast, International Entrees, etc.

Poultry: Butterball turkey and Blue Coach, etc.

Groceries: Peter Pan peanut butter, Soup Starter, Stew Starter, etc.

Cheese: Pauly

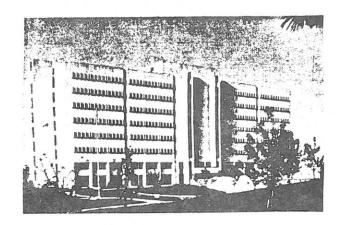
International: Turkey operation in England and Panama. Sales and distribution

centers all over the world.

The decentralized organization enables the vice president/general manager of each business group to have his own purchasing, operating, marketing, sales, R & D and quality assurance team. The plant managers of the 30 plants in the U.S. report to the director of operations of each group. Consistent with the company's commitment to quality, the quality assurance manager of each plant also reports to the group QA manager of each group.

The separation of Swift & Co. from the fresh meat business allows the operation to be more efficient by concentrating on value-added products. The reorganized Swift & Co. also adopted a new management philosophy — Front Line Management. Under this approach, decision making is placed as much as possible in the hands of those closest to the action — the front-line manager. The system helped reduce corporate staff by 50%, and brought down to four, from nine, the layers of management between the president and plant supervisors. In addition to the Front Line Management, new product development and product line extensions represent the cutting edge of the new Swift.

In two years, a significant change in return of assets has been noted. After losing 10 million in 1980, Swift gained 38 million dollars in 1981, and 49 million in 1982. The Front Line Management, new products development, reduced inventories, a revitalized sales force, investments in more efficient plants and other improved operating efficiencies have all contributed to Swift's improved profit picture. With the business environment continuing to be volatile and competitive—high interest rates, slower growth and ever-changing social and political environment—Swift & Co. is looking forward to meeting the challenge of the 1980's.



#### RICHARD B. RUSSELL AGRICULTURAL RESEARCH CENTER (RRC)

P.O. Box 5677 Athens, Georgia 30604

The program of the Richard B. Russell Agricultural Research. Center is guided by major national goals for increased agricultural productivity and improved nutrition, environmental quality, rural area development, and food safety. New uses and more efficient processing methods are being sought for important agricultural commodities. Expansion of both domestic and foreign markets is a major objective. Regional research in watershed hydrology is headquartered in the Center.

#### Catharina Ang

The Research Units at this Center include: Animal Physiology, Field Crops, Meat Processing and Quality, Plant Physiology, Processing Engineering, Quality Evaluation, Toxicology and Tobacco Safety.

The objectives and missions of each Unit are briefly excerpted as below:

#### Animal Physiology:

Develop a basic understanding of the endocrinological and physiological mechanisms regulating reproduction and growth and development which will lead to practical methods of increasing reproduction and optimizing the lean carcass lean to fat ratio.

#### Field Crops

Conduct fundamental and applied research to develop improved technology for processing forages, feed grains, oilseeds, and other agricultural products of the region into economical feed, food and industrial products.

#### Meat Processing & Meat Quality:

Develop practical procedures for improving quality, shelf life and safety of meat products, including poultry and pork. Develop new, rapid, accurate, easily applied methods for the determination of spoilage and pathogenic bacteria on meats. Nutritional composition and sensory properties of meat products are also evaluated.

#### Plant Physiology

Study the domain of photosynthesis relating to genetic and functional diversity of plants. Seek underlying structural, physiological, and molecular mechanisms involved in plant adaptations. Determine and attempt to overcome fertility barriers to wide crosses.

#### Process Engineering

Improve the efficiency of processing and handling of agricultural commodities while maintaining the quality and improving the safety of the products. Research areas include studies on efficiency of handling and storage, water conservation and reuse, water pollution, byproduct recovery and utilization, improved plant cleaning procedures, and technology to assist action/regulatory agencies.

#### Quality Evaluation

Develop technical capability for measuring quality of horticultural crops by non-destructive means. This will include determining the compositional, structural and sensory parameters that relate to consumer perceived quality and value, and relating these to attributes of the commodity that are measurable by nondestructive means.

#### Toxicology

Investigate the toxicological and pharmacological properties of those natural toxicants for which data are not available or are inadequate to assess the potential health hazard. Develop new bioassays as needed. Tests to be conducted include carcinogenicity, mutagenicity, and teratogenicity, as well as studies on metabolic fate and distribution.

#### Tobacco Safety

Develop a safer cigarette and a safer tobacco by identifying and reducing hazardous smoke constituents and tobacco precursors of hazardous smoke compounds. Study leaf and smoke flavor compounds and apply analytical methods to tobacco samples experimentally produced by USDA agronomists.

# Food for Space Flight

This literature is a part of NASA's Educational Publication NF-133/6-82. Provided by Dr. Chung Kung Kuo

ore than 20 years ago, astronaut John Glenn became the first
American to orbit the Earth. His mission lasted nearly five hours and before splashing down in the Atlantic ocean, Glenn and his Mercury spacecraft completed three trips around the world.

Among the many tasks Glenn had to perform while in orbit were the first American space experiments in eating food in the weightless conditions of Earth orbit. Glenn's flight was too short to make eating a necessity but future flights were expected to last many days and even weeks. His experience would help design space food systems.

Eating in space for John Glenn turned out to be an easy though not too tasty experience. Before the flight, some experts were worried that, in weightlessness, food would be hard to swallow and as a result, collect in the throat. Glenn found that eating in space was relatively easy and once the food reached the mouth, there was no problem in swallowing. Other Mercury astronauts following John Glenn were forced to endure bite-sized cubes, freeze dried foods, and semi-liquids in aluminum toothpaste-type tubes. They found the food unappetizing, had trouble rehydrating the freeze-dried foods, and disliked squeezing the tubes. Furthermore, crumbs from the bite-sized cubes had to be captured to prevent them from fouling instruments.

In the Gemini missions eating in space became more normal. The aluminum tubes of the Mercury program were replaced because the container weighed more than the food inside. Bitesized food chunks were coated with an edible gelatin to reduce crumbling. Rehydratables were encased in an improved plastic container. To rehydrate food, water was injected into the pack through the nozzle of a water gun. After kneading the contents the food became a puree and was squeezed through a tube into the astronaut's mouth.

Not only were the food containers for the Gemini astronauts improved but the menu selections were enlarged enough to provide four days of meals before repeating any menus. A typical meal would include shrimp cocktail, chicken and vegetables, toast squares, butterscotch pudding, and apple juice. Before each flight, meal combinations were chosen by the astronauts themselves but the menus chosen were required to provide 2,800 calories per day. To provide proper balance, 16 to 17 percent of the menu consisted of protein, 30 to 32 percent fat, and 50 to 54 percent carbohydrate.

In the Apollo program, food packages were similar to those used in the Gemini missions but the variety of food was considerably greater. Apollo astronauts had the added luxury of heated water for hot drinks and hot foods at a temperature of 67 degrees C (154 degrees F) and chilled water at 7

degrees C (45 degrees F).

Water temperatures from the dispenser of the Gemini spacecraft hovered at the 21 degrees C (70 degrees F) ambient spacecraft temperature. With hot water available, food was easier to rehydrate and much improved in taste.

Further advances in Apollo food systems came with the introduction of the "spoon-bowl" package for rehydratable foods and retort pouches for thermostabilized foods.
Following rehydration of the contents in the spoon-bowl, a pressure type, plastic zipper was opened and the food removed with a spoon. The moisture content in the food enabled it to cling to the spoon. Food in the retort pouches was consumed as is.

In 1973 and 1974, the Skylab spacecraft was occupied by three teams of astronauts. Space food systems there were much improved over systems used in Apollo, Gemini, and Mercury. Unlike previous space vehicles for astronauts, Skylab featured a large interior volume and space was available for a dining room table. The table was a pedestal where food trays were mounted. When dining, the three-astronaut teams would "sit down" in the air by means of foot and thigh restraints and eat in an almost normal fashion. The food trays not only held the food in place but also served as warming devices. Underneath three of eight cavities in the trays were warmers that could raise temperatures of foods

needing heating to 66 degrees C (151 degrees F).

Food containers for the Skylab astronauts consisted of aluminum cans with full panel pull-out lids. Cans containing thermostabilized food had a built-in membrane to prevent spillage when removing the lid in weightlessness. Rehydratable foods were in a plastic pouch within the can and had a water valve for rehydration. Canned, ready-to-eat foods were held in the can with a slit plastic cover. Instead of plastic drinking bags, Skylab drinking containers were collapsible bottles that expanded accordian style when filled with hot or cold water.

Eating on Skylab was a fairly normal operation. Knife, fork, and spoon were held magnetically to the food tray until needed. A pair of scissors was added to the usual utensils for cutting open the plastic membranes. With careful use of the utensils, food would remain in the cans until needed. On occasion however, a too rapid motion with a fork or spoon would cause a piece of meat or other food to drift away from the tray.

Because of its relatively large storage space, Skylab was able to feature an extensive menu of 72 different food items. Unique to Skylab was a freezer for foods such as filet mignon and vanilla ice cream and a refrigerator for chilling fruits and beverages. Enough food was carried to provide each astronaut with 1.9 kilograms (4.2 pounds) of food per day. This weight also included the weight of the primary food packaging.

In 1975, the last of the Apollo flights took place with the Apollo-Soyuz docking mission.

The Apollo spacecraft did not have the freezer that Skylab featured but many of the food advances from Skylab and the earlier Apollo missions were incorporated. Because of the short duration of the flight (nine days), many short shelf-life items were added to the foods carried. Fresh breads and cheese were included as a part of 80 different varieties of food dined upon by the Apollo astronauts. Many foods were packaged in plastic in bite-sized portions while others were placed in spoonbowl packages or plastic drinking bags. To make eating easier, a food tray was carried on the mission. The tray did not warm the food as the Skylab tray did, but it held the food in place with springs and Velcro® fasteners. The tray was secured to the crewmember's leg during meal time.

#### Space Shuttle Food System

NASA's Space Shuttle has opened a new era in space travel. The Shuttle takes off as a

rocket, orbits the Earth as a spacecraft, and lands as an airplane. Missions on the Shuttle will last from one to 30 days for crews of two to seven astronauts.

To meet the nutritional needs of Shuttle crews, a new food system has been developed. This system centers around a galley that has been installed on the mid-deck of the Orbiter's cabin. The galley is a modular unit that can be removed for special flight missions that require extra interior space. It features hot and cold water dispensers, a pantry, an oven, food serving trays, a personal hygiene station, a water heater, and auxiliary equipment storage areas. The galley does not have a freezer as in Skylab, nor a refrigerator.

Preparation of a meal on the Shuttle is started by a crewmember 30 to 60 minutes before mealtime. A full meal for a crew of four can be set up in about five minutes. Heating and reconstitution of the food takes an additional 20 to 30 minutes.

#### Space Shuttle Menu Design

The Shuttle menu is designed to provide nutrition and energy requirements essential for good health and effective performance with safe, highly acceptable foods. In order to maintain good nutrition, the menu will provide at least the following quantities of each nutrient each day:

Protein	(g)	56	Vitamin B <sub>12</sub>	(g)	3.0
Vitamin A	(iu)	5000	Calcium	(mg)	800
Vitamin D	(iu)	400	Phosphorous	(mg)	800
Vitamin E	(iu)	15	lodine	(µg)	130
Ascorbic Acid	(mg)	45	Iron	(mg)	18
Folacin	(µg)	400	Magnesium	(mg)	350
Niacin	(mg)	18	Zinc	(mg)	15
Riboflavin	(mg)	1.6	Potassium	(meg)	70
Thiamine	(mg)	1.4	Sodium	(meg)	150
Vitamin B <sub>6</sub>	(mg)	2.0		,	

The "chef" removes complete meal packages from storage and makes the necessary preparations before serving. Food needing rehydration is given hot or cold water in premeasured amounts. Water for rehydration comes from the Orbiter's fuel cells that produce electricity by combining hydrogen and oxygen gas. Since water is a usable biproduct from the fuel cells. much weight can be saved by sending up food in a dried form for rehydration in space. To simplify food packaging a new rehydratable food pack design is used. The bottom of the package is an injection-molded, high density polyethylene base. A thermoformed flexible lid made of plastic film covers the top. To add water, a large gauge hollow needle is inserted through a septum in the base.

Food needing heating is placed in a forced air convection oven, a new feature for space flight. The maximum temperature of the oven is 82 degrees C (180 degrees F) and it can hold temperatures at 65 degrees C (150 degrees F) for an extended period. The oven can heat containers of different sizes and shapes.

Beverage containers for the Shuttle are identical to the packages for rehydratables. A polyethylene straw is inserted through the same septum that is used for injecting water. When not in use, a clamp closes the straw.

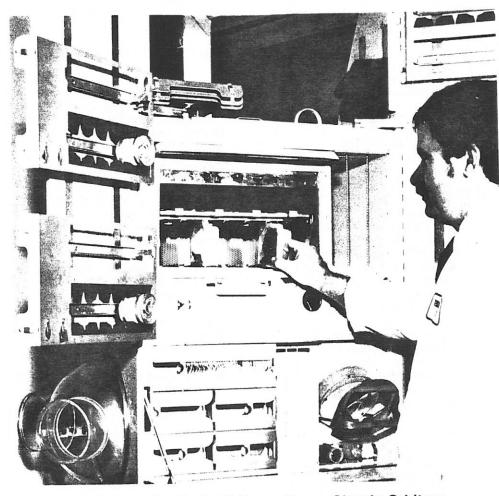
While the astronauts are eating, food containers are held in a food tray that is attached to a table in the mid-deck, to the astronaut's lap while seated, or attached to a wall. Eating

utensils consist of a knife, fork, spoon, and a pair of scissors for cutting open packages. Food can be seasoned with serving-sized packets of mustard, catsup, mayonnaise, hot sauce, and liquified salt and pepper. Following the meal, food containers are discarded and the utensils and serving trays are cleaned with "wet wipes."

#### Shuttle Menu

The Space Shuttle menu currently features more than 70 food items and 20 beverages.

Shuttle travelers will have a varied menu every day for six days rather than the personal preference meals used in previous space missions. Each day, three meals are allowed, with a repeat of menus after six days. The pantry also provides plenty of foods for snacks and between meal beverages and for individual menu changes. The pantry also stores additional contingency food to last 96 hours.



A mockup of the galley that will fly on Space Shuttle Orbiters during most operational flights. A technician is inserting a food package into the convection oven. Empty food trays are attached to the doors while food is being prepared. The plastic hemisphere attached to the left side is a hand wash hygiene station.

#### Food System Constraints

The primary objective in designing a food system for the Space Shuttle is to provide food that is safe and nutritious, light in weight and compact, and is packaged in a convenient form that allows easy manipulation in the weightless environment of an orbiting spacecraft. To achieve this objective requires a careful consideration of three important factors: biological, operational, and engineering. Under each factor are many constraints that affect the final choice of food and how it is packaged.

The biological factor in food

design requires the food to be both safe and nutritious. It should also appeal to the crew's sensory preferences. The food must be easy to injest and digest and not cause any hygiene or gastroenterological problems.

The operational factor relates both to the food and the nature of its packaging. The package must be light in weight (engineering factor) but provide for protection and stability of the food in storage for periods that might last well over 30 days. Food must be easy to prepare and require little crew attention. Easy disposal of waste food and used packaging material is

another constraint.

The engineering factor has to do with not only the weight of the food and packaging but how compact it is for storage. Thirty day missions of the Shuttle will require large amounts of food. The food and packaging must survive the temperature, pressure, acceleration, and vibration of a Shuttle flight. Still another constraint is the quantity of water needed for rehydration.

# Shuttle Food and Beverage List

Thermostabilized (T): Heat processed foods ("off-the-shelf" items) in aluminum or

#### Space Shuttle Food and Beverage List

#### Foods\*

Applesauce (T)
Apricots, dried (IM)
Asparagus (R)
Bananas (FD)

Beef almondine (R) Beef, corned (I) (T) Beef and gravy (T)

Beef, ground w pickle sauce (T)

Beef jerky (IM) Beef patty (R)

Beef, slices w/barbeque sauce (T)

Beef steak (I) (T)

Beef stroganoff w/noodles (R) Bread, seedless rye (I) (NF) Broccoli au gratin (R)

Breakfast roll (I) (NF)

Candy, Life Savers\*, assorted

flavors (NF)

Cauliflower w'cheese (R) Cereal, bran flakes (R) Cereal, cornflakes (R) Cereal, granola (R)

Cereal, granola w blueberries (R) Cereal, granola w raisins (R)

Chedder cheese spread (T)

Chicken a la king (T)

Chicken and noodles (R)

Chicken and rice (R) Chili mac w/beef (R) Cookies, pecan (NF)

Cookies, shortbread (NF) Crackers, graham (NF)

Eggs, scrambled (R)
Food bar, almond crunch (NF)

Food bar, chocolate chip (NF)

Food bar, granola (NF) Food bar, granola raisin (NF)

Food bar, peanut butter/ granola (NF)

Frankfurters (Vienna sausage) (T)

Fruitcake (NF)
Fruit cocktail (T)
Green beans, french
w/mushrooms (R)

Green beans and broccoli (R)

Ham (I) (T) Jam/Jelly (T)

Macaroni and cheese (R)

Meatballs w/barbeque sauce (T)

Nuts, almonds (NF) Nuts, cashews (NF)

Nuts, peanuts (NF)

Peach ambrosia (R)

Peaches, dried (IM)

Peaches, (T) Peanut butter

Pears (FD) Pears (T)

Peas w/butter sauce (R)

Pineapple, crushed (T)

Pudding, butterscotch (T)

Pudding, chocolate (R) (T)

Pudding, lemon (T)

Pudding, vanilla (R) (T)

Rice pilaf (R) Salmon (T)

Sausage patty (R)

Shrimp creole (R) Shrimp cocktail (R)

Soup, cream of mushroom (R) Spaghetti w meatless sauce (R)

Strawberries (R) Tomatoes, stewed (T)

Tuna (T)

Turkey and gravy (T)

Turkey, smoked sliced (I) (T)

Turkey tetrazzini (R)

Vegetables, mixed Italian (R)

#### Condiments

Barbeque sauce Catsup

Mustard Pepper Salt

Hot pepper sauce Mayonnaise

#### **Beverages**

Apple drink Cocoa Coffee, black Coffee w/cream

Coffee w/cream and sugar Coffee w/sugar

Grape drink Grapefruit drink

Instant breakfast, chocolate Instant breakfast, strawberry Instant breakfast, vanilla Lemonade

Orange drink Orange-grapefruit drink Orange-pineapple drink

Strawberry drink Tea

Tea w/lemon and sugar

Tea wisugar Tropical punch

\*Abbreviations in parentheses indicate type of food T = thermostabilized, I = irradiated, IM = intermediate moisture, FD = freeze dried, R = rehydratable, and NF = natural form.

bimetallic tins and retort pouches.

Irradiated (I): Foods preserved by exposure to ionizing radiation and packed in flexible foil-laminated pouches.

Intermediate Moisture (IM): Dried foods with a low moisture content such as dried apricots. Packed in flexible plastic pouches.

Freeze Dried (FD): Foods that are prepared to the readyto-eat stage, frozen and then dried in a freeze dryer which removes the water by sublimation. Freeze dried foods such as fruits may be eaten as is while others require the addition of hot or cold water before consumption.

Rehydratable (R): Dried foods and cereals that are

rehydrated with water produced by the Shuttle Orbiter's fuel cell system. Packed in semi-rigid plastic container with septum for water injection.

Natural Form (NF): Foods such as nuts, crunch bars. and cookies. Packed in flexible plastic pouches.

Beverages (B): Dry beverage powder mixes packed in rehydratable containers.

As more experience in spaceflight is gained, food systems for space travelers will continue to improve. New foods are being developed and evaluated along with new commercial foods as candidates for the Shuttle food system. Foods are tested for taste,

nutritional value, convenience in preparation, storage life, and microbiological safety. The containers for the foods and preparation techniques are also being evaluated.

While the science of space nutrition is still relatively young, potential benefits to people on Earth will certainly arise from it. Already, the technology originally developed for spacefoods has found its way into the food market place. Space nutrition research may also help in understanding the problems of deterioration of people restricted to hospitals and nursing homes. The weightless condition of Earth orbit effects the body in much the same way as extended bed rest.

DAY 1	DAY 2	DAY 3	DAY 4
Peaches (T) Beef patty (R) Scrambled eggs (R) Bran flakes (R) Cocoa (B) Orange drink (B)	Applesauce (T) Beef jerky (NF) Granola (R) Breakfast roll (I) (NF) Chocolate, instant breakfast (B) Orange-grapefruit drink (B)	Dried peaches (IM) Sausage (R) Scrambled eggs (R) Cornflakes (R) Cocoa (B) Orange-pineapple drink (B)	Dried apricots (IM) Breakfast roll (I) (NF) Granola w blueberries (R) Vanilla instant breakfast (B) Grapefruit drink (B)
Frankfurters (T) Turkey tetrazzini (R) Bread (I) (NF) Bananas (FD) Almond crunch bar (NF) Apple drink (B)	Corned beef (T) (I) Asparagus (R) Bread (I) (NF) Pears (T) Peanuts (NF) Lemonade (B)	Ham (T) (I) Cheese spread (T) Bread (I) (NF) Green beans and broccoli (R) Crushed pineapple (T) Shortbread cookies (NF) Cashews (NF) Tea w lemon and sugar (B)	Ground beef w pickle sauce (T) Noodles and chicken (R) Stewed tomatoes (T) Pears (FD) Almonds (NF) Strawberry drink (B)
Shrimp cocktail (R) Beef steak (T) (I) Rice pilaf (R) Broccoli au gratin (R) Fruit cocktail (T) Butterscotch pudding (T) Grape drink (B)	Beef w barbeque sauce (T) Cauliflower w cheese (R) Green beans w mushrooms (R) Lemon pudding (T) Pecan cookies (NF) Cocoa (B)	Cream of mushroom soup (R) Smoked turkey (T) (I) Mixed Italian vegetables (R) Vanilla pudding (T) (R) Strawberries (R) Tropical punch (B)	Tuna (T) Macaroni and cheese (R) Peas w butter sauce (R) Peach ambrosia (R) Chocolate pudding (T) (R Lemonade (B)

<sup>\*</sup>Abbreviations in parentheses indicate type of food: T = thermostabilized, I = irradiated, IM = intermediate moisture, FD = freeze dried. R = rehydratable, NF = natural form, and B = beverage

†Beginning with the fifth Shuttle flight, the menu cycle will be enlarged to six days.

# 如何成功的交換思想 说即祥教授講稿一如年到十六日

傳達或交換思想及這見是事業成功的最重要阅键之一.

一個人就是貴如美國落绕,也不能独断档行,必須说服民家、在墨泽附投他的票,必須说服國会議員,同意他的政見,更必须说服 外國首長,同意他的外交政策.

我们日常工作、不满是对上、对下,或对同事,都必,须成地交换思想和意見。

对上: 我们必须取得我们上司的信任.使他同意我们所需要的一切.

对同事:我们必须要争取他们的同意和合作.

对下:我们必须便他们心服口服.事心这我们努力工作.事养 強硬的压迫.是不能有好效果的.

对科技研究和考察人员:我们必须要能出售我们的研究所产生的结果,出售我们的建满益有效的傅達我们的成熟. 使我们的研究計劃,可以得到批准和资助。

傳達意見和思想,可以是口頭的,也可以是書面的,口頭上傳達意見可以在两三人的沒話中,也可以在许多人的会場中,書面上傳達意見可以在書信中,備名錄中,報告中,建議書中,要求書中,和正式發表的文章中.

有一些做事经验的人,尤其是有管理阶层的经验的人,都可以告诉你,一天内大半天都是在做口头或書面的实换意见的之作.

不管是口头或是書面.準備好的意見傳達.必需注意下到几矣:

(1)仔细细铝低的思想.使你的意见可以最有效的.最合置 辑的表示出来.不要随便张口.或者坐豁驾.一定要想好 3. 安排好.再满或者家.

- (2)如有可能,儘量利用图表和数字.使你的意思容易3解.而 創世最深刻的印象
- (3)注重时间,不要满得太久.使人烦嫌.如果主席给你时间限制,一定要遵守.在指定的时间内满定,好的帮告益不是警告的部告.好的都告要简短.但要连章.使人家了辞益同意你的要求或是意見.
- (4)要用發音正確和沒有文法错误的美语,要用给到好感的字眼,有效的有力的傅達你的意見.

最高最好最深的英文,并不是最好的帮告. 芮.士比亚的文

章並及适用於日常文件.

· 我的標準是.最好的報告是使人同意盖批準你的意見的報告.但是要達到這個目的.你便必須能使用流利的.無文法错误的英语.並儘量利用恰当的字彙.

以下两本参考者,与有助於增進這方面的技能:

Jimmy Carter — Keeping Faith Katherine Gibbs — Handbook of Business English

(5) 事先準備答覆一切可能被人问到的问题.

最後,講话一定要声音宏亮信慧,科们表音本来就有问题.如果声音再细中如珠.人家便更難了解了.

我想利用剩下的时间,来徙到的经验,沿偏一下,一個中國人如何在美国的社会上,争取事業上的成就,

一) 边售部们自己的地位.

我们是中国人,我们应当给假我们的停绕和悠久的文化.但是我们不能否说.我们在美国社会上.仍甚是受歧视的.美国人在各方面,做事是事事功倍,我们中国人去啦,须埋头苦草气完实自己.才能收到事倍功半之效.老实講,如果一件事.美国人们做.中国人也能做.那这件事一定是被差国人拿去做的.我们中国人要想成功.便必须到苦训育自己.要使自己的

静力比美国人高一头,我能做的. 颗些比美国人做的好一層. 才有成功的机会.

记得1969年, 找被AOCS (American Oil Chemistic Society) 選為主席,這是中國人很力有的樂養.

但是一個中國人如果真的有本领,有学问,是國人是会承認而敬佩的,美國人也会给你前進的机会的,所以科的一定要国际努力打進成功的途徑.

就 IFT (Institute of Food Technologists) 未说吧. 対被告的1974年的Fellow 及1983年的Nicholan Award. 李東庆被告的1981年的Fellow.

# (二)不要輕易離用科技单位

科技的成熟、是很具体的、是容易看得出的、一個人在科技方面的成就、不管你是中国人或是国人、都是不可否说的、人事和管理方面的成就、是比较不容易正確指出的、追其中包括交際手腕、吹牛成度、酒量大小、高分夫球打得如何等之,中国人在直方面競手便比較吃虧。

科城市四人要想专向人事和管理的途徑,最好脚踏实地、先在科技方面、对公司有具体的,重大的贡献,然很根据意些贡献,走上管理的位置,否则是很容易被人家扮做来,接下去的.

# (三)不要的貧遠虚

美国人不懂诸虚是美德、美国人最会诊太、最合成牛、科最近时、和美国的高階層的贫事人员,有相当多的接觸、登现除了少数的例外而外,但置越高的美国人,便就会吹牛、越会誇大其辞、清洁意、我宣裡便用了一下典型的美国对资事人员的谈话方式, 科说……便是诊大, 指高自己别分。

我们中国人如果保存科们傳统的美德.十分邁盧在做事上便要吃虧.例如你的上司如果的你对某件事有使有记谢.你如果知识这一是美丽美国同事只知道三分.但却

大吹说知道得很透緻.那你的上习便以多你的美国同事知道的比你多.

但是我盖不是对你乱唤,只是劝你不要过份,潘虚,实事求是.按些事实,没没的便没而已,自己知道的,一定要说出来,讓人家知道,千萬不要把自己的学问,问在心头,坐在一旁,问声不响.

# (四)不要切断後路

对你在贵税时的教授和從前对作时的同事、都要好好地保持联络、千万不可転放一时不得意的朋友和同事、你料想不到什么时候、你会又需要他们的帮助。

国对给你工作的人,不可过份劳成

最好的辩法是此身作则.如果你叫人做一件事.最好你喜懂得.有必要时自己也可以动手做.

你如果希望你的手下晚上来加班工作,你自己得发晚上考工作,如果你希望你的助手在周末来工作,你自也得周末专工作, 成功是辛苦工作的後果,不管你多理明,不管你多能车,去年时不下一番苦心,不辛苦努力加班工作,是很難成功的.

## (六) 闹会秘诀.

最後、海科講一美用会的狂臉、做过幾年事的人、都知科的有许多时间、都花在用含土的具的许多重要的事、都是在会議上火气的。 A.要熟讀 Robert's Rules of Order

Robert's Rule 是是四一般角含的程序和规则、我们一定要仔细唸了、才知道怎樣辩論是合理的、才知道自己的程谚之当在什么时候,用什么方式合法的提出。

最重要的是如果有人说你的装言不合Roberti Rule,你一定要知道他请的号对的、还包扎满意标准才可能提进了事。

# B. 要發言.

你也果有意見一定要跟表,千万不要埋在心裡、坐在一旁、

默·些言,一般来講,你如果又茂言,人家便以為你是不知道. 但是凡事皆不可过份,你也不可以講介不停.耽,候时间,使人生厭.

# C.要力争自己的意見及建議

你必須根据理由.畫全力多自己的意見和建議.而事論.而詩達.便你的意見和建議,可以得到全場的赞成和推遵.但是事論和辩谨一定要用灰圈的整度.答氨的编调.千款.又要到薄和侮辱旁人.舉分例子:你如反对某人的意見.不要说:"某某人怎怎怎么能误,我坚决反对.不能接受."最好说"某某人的高見.有其优矣和重要性.但多3某种原因. 科视的最好改论……"

# D. 服從多數

争福一定要竭盡全力,但是一经决議後,便一定要放棄私人意見,服從多数,共同各固体的利益而奮鬥.

處世之道。各人有各人的見解、我只是根据于人的强强、1000便向各位谈谈、希望其中有一两吏、可以供各位採用.

#### ACFSTA Financial Report by Y. C. Jao, July 18, 1983

#### I. Expense Budget

	Item	Description	Deposit/Credit	Payment/Debit
	1	From last financial report	933.13	
	2	Membership due collected befor IFT Annual Meeting	e 250.00	
	3	Membership directory printing and postage (less \$300)		191.70
	4	Audio-Visual Services for IFT ACFSTA Career forum in Hyatt Regency, New Orleans		48.60
	5	Name tags and markers at annual meeting		5.40
	6	Membership collected at annual meeting	465.00	
	7	Annual meeting banquet expense and income	855.00 (\$15 x 57)	1200.00 (\$15 x 80)
	8	Postage (P. Wan)		24.22
	9	Miscellaneous income (P. Wan)	1.00	
	10	Membership due collected after annual meeting	145.00	
	11	Interest (June 30)	17.71	
			2666.84	1469.92
		Net	\$1196.92	
II.	Award Bud	get		
	1	Fund raised	1300.00	
	2	Presentation plaques at annual meeting		72.00 <b>(</b> \$12 × 6)
	3	Annual awards		200 (\$100 x 2)
	4	Interest (June 30)	12.28	*
		Net	\$1040.28	

#### **BALLOT**

According to proper procedure, the issue of changing our official title is presented to you. Please cast your vote on this important issue. A formal

	non-profit organization application will be filed with the IRS as soon as our official English name is decided. For those who have expressed an opinion previously, please read the letter form our president and cast your vote again. Thanks for your support.					
	ISSUE: Change the name of our organization from "The Association of Chinese Food Scientists and Technologists in America" (ACFSTA) 放美中國食品科技学会 to "Chinese American Food Society" (CAFS) 華美食品学会					
	YES NO					
	PUBLICATION COMMITTEE					
1	The Publication Committee has received more than twenty member responses to write articles for the Chinese Daily News (世界日報). If you are interested, please sign your name.					
	Signed:					
Ple Mil	ase return this portion with your remittance to: Dr. Y. C. Jao, P. O. Box 932, es Laboratories, Inc., Elkhart, IN 46515					
	1983-1984 ACFSTA MEMBERSHIP DUES FORM					
	(For 6/1/83 - 5/31/84)					
Membership Dues Amount (\$)						
	Student Member (\$5)					
	Professional Member (\$15)					
	Supporting Member (\$30 or above)					
	Honorary Member (\$50 or above)					
	Corporate Member (\$200 or above)					

I would like to participate in the following as many as you can.)	committee a	activities. (Please mark
A. Publication, editorial	E.	Consulting and Workshop
B. Membership Committee	F.	Annual Meeting
C. Employment Committee	G.	Awards Committee
D. Student Affairs Committee	Н.	Other (Specify)
I can be contacted at (phone number or addres		
<u>Suggestions and Comments</u> :		
(TO SIMPLIFY PAPERWORK, PLEASE SEND THE WHOLE	PAGE TO Y.	C. JAO.)

TO: DR. Y. C. JAO
MILES LABORATORIES, INC.
P. O. BOX 932
ELKHART, IN 46515

#### NEW MEMBERS

The following are our new members. We would like to express our warm welcome to each one of you. Through this communication, we hope to be able to help each other become more successful in our profession and career.

		•	
NAME	HOME ADDRESS AND PHONE	BUSINESS ADDRESS AND PHONE	EDUCATION & SPECIALTY
chen, HUNG-CHANG 陳鸿章	103 Elmwood Ave. Ithaca, NY 14850 (607) 273-7462	Dept. of Food Sci. Cornell Univ. Ithaca, NY 14853 (607) 256-2248	BS 77 National Taiwan U. MS 82 Cornell U. Food Science
chien, john t. 陳烟堂	26-1/2 Waldron St. West Lafayette, IN 47906 (317) 743-6902	Smith Hall Purdue Univ. West Lafayette, IN 47907 (317) 494-8330	BS 76 Fu-Jen U. MS 81 U of Arkansas Grad. Student Protein Chem. & Engr.
CHOU, CHAUR-MING	49E. Meadow Lane Apt. 49 Lowell, MA 01854		
HSU, KENNETH H. 計學加	3924 Ross Road Ames, IA 50010	Dept. of Food Technology Iowa State U. Ames, IA 50011	BS 72 Kansas State U MS 74 Kansas State U Ph.D 78 Kansas State U Assistant Prof. Food Engr. Cereal Processing
HUANG, VICTOR T. 黄 倉敏	3813 72nd Ave. N. Brooklyn Center MN 55429	311 Second St., SE Minneapolis, MN 55414	
LEE, CHAIFEN 李佳芬	13750 Mahan Rd. Apt. 2155 Dallas, TX 75240		MS 83 Texas Tech U
LEE, SIU-LEUNG LAWRENCE 李兆良	Scudder Road Painted Post New York 14870 (607) 962-6755	Bioscience Research Corning Glass Works SP Fr 6 Corning, NY 14831 (607) 974-3016	BS 69 Chinese U Hong Kong Ph.D 74 Purdue U Senior Res. Scientist Biorganic, Biochem.
LEU, SHING-SHEN 劉新生	3901 Omara, #234 Houston, TX 77025		MS 78 U Rhode Island Texas Tech U
SHEU, SHAN-SHAN 許珊珊	611 Lincoln Apts. Amherst, MA 01002 (413) 549-4921	Chenoweth Lab. Dept. of Food Sci. & Nut. U. of Mass Amherst, MA 01003 (413) 545-0248	Ph.D. 83 U Mass Food Science Grad. Student
SHIEH, JAMES J. 言計	1547 Fulton Dr. Maple Glen, PA 19002 (215) 643-2554	Food Safety Lab. Eastern Regional Research Center USDA Philadelphia, PA 19118 (215) 233-6447	Pn.D. 73 Utah State U Research Chemist Food Irradiation Food Chemistry
WEN, MING-CHE 温		Dept. of Food Sci. Cornell Univ. Ithaca, NY 14853	

YUEN, WING

防攀

3173 Preble Ave. Ventura, CA 93003 (805) 642-2699 Ph.D. 68 Free Protestant U DSC 69 Sussex College of Tech. Consultant to Food Industry

ACFSTA c/o Peter J. Wan Anderson Clayton Foods 3333 N. Central Expressway Richardson, TX 75080



TO:

THIRD CLASS

ANG, CATHARINA Y.W. 110 Whipporwill Circle Athens, GA 30605