

Description of Qualifications, Plans and Platform
Fuhua Cheng

I believe:

Only a happy department has the full
potential to excel.

I will ensure:

- Everybody is properly compensated, and
- nobody is left behind.

Under my leadership:

- Everybody will have a chance to be involved in department business, and all committee members will be rotated;
- you will know everything of our department, including budget, personnel, resources, and possible funding information;
- you set the rules on how people should be evaluated and evaluations are based strictly on those rules.

I have an Action Plan for Research, an Action Plan for Education and an Action Plan for Service. However, I realize, without your inputs, these are just MY plans. We need OUR plans.

Aspects we need to build:

- OUR plans
- OUR evaluation criteria (promotion/tenure, performance)

Vision

- The future of this department must be **visual, internet computing** based, and **multi-disciplinary** relevant, with a significant portion of its research focused on issues related to **security** and **public health**.
- Our goal is to reach the **top 30** ranking in six years.

General Mission

- continuously improve in research and graduate studies without compromising the quality of undergraduate education

Urgent Mission

- develop a strategy to bring the department to a new level of success without significantly increasing the size of the department

Action Plan for Research

- increase research funding
- increase the quality of publications
- build selective areas of excellence
- provide larger startup funding for new faculty hires
- increase the number of PhD students
- push for creation of technology centers in the College

Action Plan for Undergraduate Education

- increase the number of undergraduate students
- improve the quality of undergraduate program students
- develop **certificates** in bio-informatics and games
- get seniors involved in research work of faculty grants through senior projects

Action Plan for Graduate Education

- increase the number of PhD students
- improve the quality of PhD students
- improve the retention and graduation rate of PhD students

Action Plan for Service

- ensure every student gets proper advice
- help faculty get involved more in professional activities
- strengthen ties with national research centers, government laboratories and industry

Action Plan for Administration

- implement transparent, bottom-up policy making
- review administrative and technical support structures to make sure the Department has sufficient support in both areas
- improve the morale and effectiveness among the staff members by providing appropriate recognition and competitive salaries

Qualifications

Currently: Full Professor of Computer Science; member of the University Senate (3rd year).

Experience: 26 years of teaching and research experience; 23 years of managing federal, industry, and state funded research projects; 10 years of managing a small business.

Research Record: 120 research articles; 9 supervised PhDs/post doctorals; 47 supervised Masters; 26 extramural research grants; one US patent (three pending); editorial board members of four international journals; program committee member for more than 20 major international conferences, including *CAD'04*, *CAD'05*, *CAD'06* and *CAD'07*.

Expanding Support and Developing Collaboration: Two important jobs of the Chairman are expanding financial support of research for the Department and developing collaboration with other programs/units of UK. Both jobs require writing grant proposals for funding. I have extensive proposal writing experience (26 of my proposals are funded). I also have extensive proposal evaluation experience (7 panel activities during the past 8 years, 4 of them for NSF CAREER awards). Therefore, I know exactly what a funding agency looks for in a proposal. My experience with fortune 500 companies (IBM, Honda, Ford, Olympus) is especially important because it helps build a person's strategic sense.

Communication: Communication of all types is another important factor in successful leadership. Communication, both written and oral, is often the final product of our scientific efforts. My list of publications include 52 journal papers, 55 conference papers, and 13 technical reports. It also includes 26 funded proposals, that often require writing skill and creative effort comparable to those required by publications. In my 20 years at the University of Kentucky, I have been invited as a colloquium or workshop speaker 40 times. This is a proof of my oral communication skill in public.

Leadership and Research Program Management: I have managed various research teams, ranging from as few as 8 people to as many as 25 people. These teams are usually mission-oriented, i.e., each team has a specific R&D target and a deadline. It is the team leader's job to ensure the mission is completed timely and successfully. A project I did for IBM provided the decision makers with timely information to decide if a rendering technique for trimmed NURBS surfaces should be implemented in micro code in IBM's RISC machines. This event shows that, when critical business decision is needed, I have the capability of performing a timely and reliable task to provide the decision makers with the data they need to make the decision. A dental care CAD/CAM system project I did for Olympus involved 25 members from 7 different ethnic groups all with a PhD degree. The first stage research plan was developed by me and I led the group to work in a Japanese management style, following Japanese working ethics for a whole year. We finished all the targets successfully. This event demonstrates that I not only have the vision to design a sophisticated system that meets the expectation of a highly demanding industry giant, but am also capable of managing a very diversified team in a very demanding environment to finish our assignments on time.

Ability to Mentor and Collaborate: I have supervised 9 PhDs/Post Doctorals, and I have collaborated with more than 50 colleagues. Through collaboration, I have built connections with top scientists and entrepreneurs in Austria, Canada, China, France, Germany, Hong Kong, Japan, Russia, South Korea, Taiwan (R.O.C.), United Kingdom, and United States. Connection with China, Germany, and Japan is especially important because these countries are either technology leaders or economy powerhouses that the United States and the UK can benefit from, both long and short term.

Direction Steering: The Chairman needs to steer the strategic direction of the Department. Such a job requires an understanding and an overall evaluation of the university's strategic direction, the Department's strengths, and industrial R&D trends. As a University Senator for the third year, I am familiar with the university strategic plan making mechanism as well as the plan. Having worked at major universities in the US, Taiwan, and Japan, I know how to evaluate the strengths of a department or a school. I have done 5 research projects for fortune 500 companies: IBM, Olympus, Ford, and Honda. So I know exactly what the industry needs. These experiences show my preparation for a chairman position.