

**COVER SHEET: DECISION RESEARCH CENTER**

- official name of the center/institute;

Decision Research Center

- name(s) and academic title(s) of the person(s) who head(s) the center/institute;

Prof. Michael H. Birnbaum (Professor of Psychology) and Daniel Cavagnaro (Dept. of Information Systems and Decision Sciences).

- college or other unit [e.g. department or academic degree program] within which the center/institute conducts its functions;

Humanities and Social Science and Mihaylo College of Business and Economics

- contact information – phone number, email address, and building/room location;

Michael Birnbaum, 657-278-2102 and Daniel Cavagnaro, 657-278-3878

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H-532 and SGMH 4193

- year established;

Year Established: 1986

- year of last review; 2014?
- date the review is being submitted; March 15, 2017
- name of primary author(s) if different from the director(s) of the center/institute. SAME

2. Mission and Goals: What are the mission and goals of the center/institute? Which university mission and goals does the center/institute best align with? What are the departmental or college-level missions or goals that the center/institute strives to attain?

Our mission and goals are to promote the academic and applied study of decision making in its theoretical, analytical, and empirical aspects. How do people make decisions? How should they make decisions? How do they combine information to arrive at overall evaluations and judgments. These are basic questions that arise in the departments of psychology (study of human behavior), economics (study of behavioral economics), and the information and decision sciences (how should people combine information to make optimal decisions. To the extent that the university missions and goals support these departments and programs, these goals align with the missions of the university.

3. Activities: What activities took place in the most recent three-year period? How were specific activities conducted during the most recent three-year period directed toward meeting the aforementioned mission and goals?

During the last three years, the Decision Research Center has supported basic research in judgment and decision making resulting in publication in the most prestigious journals, development of new software, presentations at scientific conferences, collaborations with scholars at other universities, support for an international conference held each year (Edwards Bayesian Research Conference), and solicitation of funds for these activities.

This conference was organized via the Decision Research Center for 10 years by Birnbaum and for the last 4 years by Daniel Cavagnaro. It has attracted visitors to CSUF from Europe, Africa, Asia, and Australia. This year, we had presentations by scholars from Colombia, China, Germany, Poland, UK, Korea, and the USA. It is a conference that brings together faculty from different departments (psychology, business, economics, engineering, etc.) and from different universities, and provides a good opportunity for students and faculty from different colleges to interact with each other and a multidisciplinary research domain. Some of the presentations at this year's conference were made by students.

Visitors who stay for longer durations in the Decision Research Center also gave talks on campus. In the last 3 years, we had talks by visitors David Butler (Australia), Ulf-Dietrich Reips (Germany), and Sule Guney (Turkey). Gin Cheng, from China, is scheduled to visit in the center later this month. Ulf Reips was visitor in the Decision Research Center in Fall of 2015 and Winter 2016, during which time Birnbaum and Reips worked together on plans for a book summarizing the work done under the ATI grants to CSUF that funded the programs in the Decision Research Center on Internet Psychology. Birnbaum has also traveled to Konstanz in

Summer of 2015 and will return in summer of 2017 to work on the project with Reips and also teach the material developed under the grant at University of Konstanz. Other participants in this project include Gary McClelland (U. Colorado), John Krantz (Hanover College, Indiana), and Anja Göritz (now at Freiburg University).

4. Organizational Structure and Governance: What is the center's/institute's organizational and governance structure? Does the center/institute operate with a formal Advisory Committee or Governing Board? If so, what is the composition of that group and the frequency of meetings? What roles and oversight duties are the committee or board generally engaged in, and in what ways was the committee or board particularly impactful during the review period? If there is no advisory or governing group, then what is the rationale for not having such participation in the decision-making process?

The governing structure is informal. Birnbaum and Cavagnaro are co-directors and meet to discuss the plans for the center. Our rationale for not having a committee is that it would make additional work and we do not have released time or other resources to justify additional work that does not yield scientific, academic, or other tangible benefits.

5. Resources and Sustainability: List the revenue received by the center/institute during its latest three years of operation. What additional resources/sources of support does the center receive (e.g., assigned time for leadership, baseline budget amount, hours from community volunteers, unpaid student internships, etc.)? Provide a summary of the number of faculty and staff affiliated with the center and approximate time base of each. What assigned space does the center occupy and what administrative unit assigns that space? Are there costs related to the space? Comment on the "degree of sustainability" of the center/institute in relation to the resources that the center/institute has to draw upon and in relation to plans to maintain, reduce, or grow the work of the center/institute.

We have had support from NSF in the past and we have plans to submit future proposals to NSF under the ATI program in which we were previously successful. We have also had support from off-campus donors to our account in the Philanthropic Foundation, including an educational foundation and a university (U. Kiel in Germany). We plan to solicit additional funds from an educational foundation that has expressed interest in further supporting the center.

We have had support from the School of Business and Economics to help provide for the Edwards Bayesian Research Conference in each of the last three years. Cavagnaro's scholarly and creative activities during the past three years have developed and implemented novel computational, statistical, and experimental methodologies for applying mathematical models of decision-making to real-world problems. I contributed two chapters about mathematical modeling to edited reference books: The International Encyclopedia of Social and Behavioral Sciences,

2nd Edition, published by Elsevier, and The New Handbook of Mathematical Psychology, published by Cambridge University Press. Cavagnaro presented original work at 8 academic conferences, as well as 5 invited talks and workshops. Daniel Cavagnaro submitted proposal for an NIH R01 grant as co-PI. The project was titled: Dimensional characterization and genetics of pediatric OC spectrum disorders. It was about identifying genetic correlates of Obsessive Compulsive spectrum disorders through behavioral testing.

The Intramural grant completed in 2014 was also used to bring Peter Wakker, Valerie Reyna, and Dan Goldstein, highly recognized scholars (all have been editors of major journals and or presidents of the Society for Judgment and Decision Making or both) to give talks at the Bayesian Conference and meet with us regarding the future of our center.

Because of the modest resources required from the university, we think the Decision Research Center is sustainable. We also received support under the Expansion program and filed a detailed progress report in 2014 about the results of that support. We are pleased to note that the grant proposal we had planned in our application for that project has now been submitted for extramural funding and we are hopeful that it will be funded.

6. Highlights and Accomplishments: Discuss any special reports, products, or activities that reflect accomplishments of the center/institute in its most recent three-year period. In what ways have these accomplishments contributed to the impact of the center/institute? In what ways have they contributed to the mission of the college or university and/or to the goal of promoting faculty and student research and engagement?

Besides the accomplishments noted above, a recent highlight is the development of a new theory of error to replace a classical approach to statistical testing. New software has been developed that is already in use by scholars at American and foreign universities. This new approach is known as the “true and error” model, and has been applied successfully to study of basic problems in the study of human decision making. The development is described in articles published with coauthors in England, Germany, Peru, and the United States, which can be found at the following links:

<http://psych.fullerton.edu/mbirnbaum/Birnbaum.HTM#inpress>

<http://mihaylofaculty.fullerton.edu/sites/dcavagnaro/>

Another highlight is the Edwards Bayesian Research Conference, which is held annually (for the last 14 years) at CSUF. Information about the last meeting (in 2017) can be found at this link:

<http://mihaylofaculty.fullerton.edu/sites/dcavagnaro/EdwardsBayes2017/EdwardsBayes2017.htm>

Publications and presentations by Daniel Cavagnaro and other relevant information can be found at this link:

<http://mihaylofaculty.fullerton.edu/sites/dcavagnaro/DRC.html>

7. Planning and Strategic Outlook: What is the nature and formality of the center's/institute's strategic planning process? What are the goals of the center/institute for the coming three-year period and to what extent are the center's/institute's resources aligned with those goals? If the leadership of the center/institute believes that some or all of the activities and operations of the center/institute need to be substantially modified, refocused, or discontinued, please explain the rationale and potential timeframe for the viewpoint.

Our goals are to continue the kind of work that is currently under way and support the on-going work to (1) promote the study of judgment and decision making, (2) improve quantitative and statistical methods for academic research and decision making in general, (3) promote the interaction of researchers from different departments, universities, and nations. In particular, we plan to continue to support visitors who are Americans from other universities in the USA as well as foreign nationals who wish to visit in the center and learn and collaborate with members of the center, invite relevant scholars for short visits when they can enrich the intellectual climate of the university by presenting their original research and study conclusions.

Looking ahead three years, Prof. Birnbaum will be 74 years and likely to be nearing the end of his active career as director. Daniel Cavagnaro has already taken on several of the activities that were done by Birnbaum, including the main organizing work for the Edwards Bayesian Research Conference, which he has organized for the last four years. It is hoped that in the next three years, the center will have expanded to include other younger members of the faculty in not only Humanities and Social Science but also other colleges that have interests in how people should and do make decisions.