



## Example EURēCA! Grant Applications

### EURēCA! Grant Applications include the Following:

- Professional Goal Essay (250 words)
- Project Description and Objectives (500-700 words)
- Bibliography (3-10 sources cited in proposal)
- Detailed Project Timeline
- Detailed Budget Narrative

### Find Details and Examples Below:

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## Professional Goals

What are your professional and personal goals? How will this experience contribute to these goals?  
(250 words)

### Goal Example 1:

I would utilize the funds to purchase books for my thesis, which will become property of Auraria Library, that allow a greater look into the history of animation and how it has been included within the canon previously. Additionally, the books would allow me to better analyze Asian art history, primarily China, Japan, and Korea, to compare with references to these histories that appear in the show. Furthermore, these texts will provide me with the basis of what is currently included within the canon and what is not, allowing me to make a more informed and concise argument.

Ultimately, I hope this project will help establish me in the methodologies I plan to pursue as a scholar and curator when I go into the field of art history after graduation. Additionally, practicing grant writing is beneficial, as I will be applying to more research grants in the future. I am primarily interested in the future of the art historical canon, as well as contemporary art practices including animation and pop culture.

### Goal Example 2:

This research project will contribute to my professional development as it will give me exposure to the field of biomedical research, which is highly relevant to my future aspirations. I hope to one day become a physician, and I am specifically interested in oncology. With MMPs playing a significant role in cancer metastasis, being a part of this project will allow me to gain valuable knowledge on the science behind MMP inhibition through hands-on experiments. I have been a part of Dr. MENTOR's lab since June of 2022. The four months I have spent in

the lab have prepared me to work on this project because I now have the foundational lab skills and background knowledge necessary to conduct the experiments and interpret the data. Working under Dr. MENTOR will be an invaluable experience, as I can learn so much from his expertise. Further, this research will allow me to move science forward by creating a potential therapy for corneal degradation and other related conditions.

### Goal Example 3:

The continuation of this project will contribute to my professional development in the areas of effective communication, project management, technical writing, and innovation. These are all areas relevant to me as an Environmental Scientist because I'm passionate about sustainable and quality results in any work I am involved with, especially when it's a matter of positive social impact like this one. Aiding preservation and conservation of our environment for me not only means the physical environment, but communities and societies that are underrepresented and lack access to certain tools. We are not separate, but a part of our environments, and our wellness and development alongside it throughout time is one that fascinates me. This project has been going on for two years and I have gained so much more than skills, but a wider understanding of purpose and true impact.

## Project Description and Objectives

In a single essay (500-750 words), describe your research, creative project, or other scholarly activity, including specific objectives, significance, method of inquiry, and analysis & interpretation. Include the following elements:

- **Objective:** Describe the precise importance or goal(s) of the project. Clearly state the purpose of your project. What research question/hypothesis, problem statement, or concept will you investigate?
- **Significance:** Discuss relevant scholarly literature to describe current knowledge in your field (include citations in bibliography). Describe how your project will contribute to or advance this current knowledge.
- **Method of Inquiry:** Explain discipline-based methods or creative techniques you will use to conduct your investigation or exploration. Provide enough detail to allow non-experts to understand the function and purpose of this approach.
- **Analysis & Interpretation:** Discuss how you will be able to use the information gathered via your method of inquiry to address the objective(s) you described above.

### Proposal Example 1:

For this project I will administer a survey that will capture Asian-American views of law enforcement. I will be responsible for writing and distributing the survey, collecting the data, and conducting interviews, with Dr. MENTOR's guidance. The survey captures demographic data such as age, level of education, race/ethnicity, and income level. It also asks a series of questions about past experiences with law enforcement, their opinions of law enforcement, and those of their friends/family. Finally, the survey asks a series of questions about hate crime victimization during the COVID-19 pandemic, and experiences with the police if they attempted to report a hate crime. The survey has IRB approval, and survey distribution has begun to promote the survey across the campus, local community, and nationwide. I will

continue to contact student organizations, ask professors to share the survey with their students, and reach out to local and national organizations asking them to distribute it to their members. I will also be posting the survey in online forums. We will also utilize the University's access to ResearchMatch. While most of the project will be collecting data through a survey, I will also conduct interviews with volunteers to allow for more in-depth discussions.

Over the last decade, police-community relations have been strained. A review of multiple studies regarding these topics indicates that perception of effectiveness of the police, as well as perceptions about crime and safety were strong predictors of how satisfied citizens were with the police, and how common they thought misconduct was in their neighborhoods. In general, respondents who had contact with the police, whether initiated by themselves or the police, expressed less satisfaction with the police (Dowler & Sparks, 2008; Jefferis et al., 1997). However, many studies of police perceptions were done before the year 2020 and primarily address Black, White, and Hispanic/Latino populations, failing to include Asian-American/Pacific Islander views. This is even more relevant to study considering the increase in hate crimes towards the Asian-American/Pacific Islander community because of COVID-19, and how that may have affected police perceptions (Gover et al., 2020). Moreover, the concept of prosecuting a hate crime is also something relatively new to the criminal justice system. The first federal statutes were not passed until the 1980s, and corresponding state laws followed in the 1990s. In the wake of unprecedented situations as the COVID-19 pandemic, it is necessary to continue these studies and explore new aspects of how police-community relations have been shaped. The data from this research can also be used to influence policy surrounding hate crimes.

## **Proposal Example 2:**

The objective of this project is to explore and test existing, traditional techniques in bending wood in order to discover new processes in the bending of wood leading to the development of methods that which will contribute to advancements in the applications and fabrication of bent wood in the built environment. The project will result in a built sculptural and functional piece using the newly developed techniques. In their book titled *Bent Ply*, Dung NGO and Eric Pfeiffer describe the beginnings of wood bending in design:

“Plywood evolved as part of a larger narrative in the transformation of natural resources into the building blocks of the modern world. Modern plywood’s origins date back to the Industrial Revolution and the development of design as a modern discipline based in technical innovation.” (14).

I argue that not only does the material need to be treated in the context of it’s timeline, but it is becoming critical that these be re-explored using new modern technological processes now more widely available to us such as Computer Numerical Control (CNC) milling. Through this project, I will be combining advanced CNC machining process combined with traditional wood bending processes to create a new way to make beautiful and efficient wood forms.

The ability to bend plywood greatly reduces wood waste and increases it’s strength (NGO and Pfeiffer 16). This is due to the cross-lamination of very thin veneers of wood that possess enough malleability under various processes to take on most any form, despite its smaller wood cellular density compared to using traditional thick timbers as a means to create strength. The ultimate goal of bending wood is to maximize material strength and efficiency without sacrificing the aesthetic appeal provided by bent plywood.

“Industrial-era technology considered raw resources to be cheap and endlessly renewable, with little thought given to the ill-effects generated by the by-products of industrial processes. In our current postindustrial age, however, we understand the interdependency of global systems and have become keenly aware of the earth’s dwindling raw materials” (Brownell 7).

I believe this project can contribute to this quest of reproducing existing materials and processes into new forms through use of hylomorphic design principles. The basic concept of hylomorphic design is ever-changing form and matter as a resultant of one another. Specifically with this project, the role of hylomorphism will be to change form without changing material mass. This is described more specifically below as:

“Formation is foremost an expression of the intensive, rather than merely extensive, properties of architecture. Extensive properties depend on the amount of matter present and are proportional to the amount of material in the system, such as mass, volume, weight and length. These are the traditional variables of hylomorphic design methodologies” (Beorkrem 8).

Proceeding the industrial revolution, there was a boom of successful experimental plywood design. However, two centuries later, the production technology including manufacturing scales and user accessibility have gone through extreme advancements, at the same time, the produced bent plywood artifacts themselves have seen virtually no change since the 19th century.

“But even in the most sophisticated transformation of extensive properties, the resulting physical state of the system remains extensively the same. This lack of state change is one of the primary epistemological limitations of hylomorphic models of design: it occludes the possibility of other states. A fully immanent expression of architecture’s intensive possibilities in its formation remains largely dormant in design discourse today” (Beorkrem 8).

The three traditional methods of wood bending I will study and experiment with in the early stages are moisture bending, kerfing, and lamination molding. These 3 methods can be broken down into three procedural categories of subtractive, additive, and hylomorphic.

These studies will result in a series of small multiples that display each of the three techniques tested in a series of twelve different forms. Through this experiment, procedural and material efficiency will be evaluated in a list along with recordings of strength limitations and possibilities of achievable form based on resultant moldability of shape. The resultant iterations will all be done using 17-layer birch plywood cut to 2-inch by 24-inch strips. Each piece will be placed into twelve pre-made molds of different 2-dimensional curved profiles. A second series of experiments will follow focusing on 3-dimensional moldable forms which combines multiple profiles from the 2-dimensional profile molds.

Following these studies, I will develop new processes and methods of bending wood based on recorded findings on strength and material efficiency from the iterated small multiple models. Aggregating the traditional processes and experimenting with CNC technologies will lead to the development of new methods for bending wood that will then be applied in the creation of an end installation or furniture piece to be displayed at the UC Denver College of Architecture and Planning in the CU Building with informational boards to teach designers about the possibilities of these processes.

### **Proposal Example 3:**

My research project for the EURēCA! Supplies and Travel Grant, examines predictors of exacerbated self-image in those with rheumatoid arthritis (RA). The project increases awareness of clinical outcomes for those with RA. We hypothesized that RA severity, unpredictability, limited functionality, ability to work, canceling plans, ability to have intimate and sexual relationships, and participation in physical activity would significantly predict lower self-image in those with RA. A research abstract based on results from the study was submitted and accepted for poster presentation at the 2023 annual Society of Behavioral Medicine (SBM) conference. Receiving travel funds will allow me to attend the conference to disseminate the results, attend conference talks on topics of interest in health psychology, and network with professionals and experts in the field toward my goal of becoming a psychologist.

#### **Significance**

In 2014, it was reported that 0.24% of the global population had RA and RA was found to be 42<sup>nd</sup> of 291 contributors to global disability (Cross et al., 2014). Regarding clinical outcomes for those with RA, a 2013 study found over 60% of respondents reported a significant decrease in self-image following RA diagnosis (Kurt et al., 2013). A recent meta-analysis found that many living with RA have a treatment outcome desire of regaining healthy self-image and functional living (Landgren et al., 2020). Our study directly identifies contributors of negative self-image in those with RA. That identification is vital to have well-rounded perspective of the condition and understanding of biopsychosocial treatment outcomes.

#### **Method and Inquiry**

Data was collected from 3856 respondents to a national survey of those with rheumatoid arthritis in the United States ( $M_{\text{age}} = 60.15$  years, 94.3% female, 91.1% Caucasian). Predictors of exacerbated self-perception were analyzed via hierarchical linear regression with SPSS version 28. This model of analysis estimates the percentage of variance accounted for by included predictor variables. For example, we were able to see how much variance in negative self-image scores was predicted by participant ratings of RA severity and other variables. In our specific case, we examined six predictors.

#### **Analysis and Interpretation**

Ratings for RA severity, unpredictability, limited functionality, ability to work, canceling plans, ability to have intimate and sexual relationships, and participation in physical activity were entered in a hierarchical linear regression. Although significant when entered in a model alone ( $\beta = .811, p < .001$ ), RA severity was no longer significant when entered in the full model ( $\beta = .044, p = .354$ ). The full model showed limited functionality due to RA ( $\beta = .114, p < .001$ ), decreased ability to work ( $\beta = .115, p < .001$ ), often needing to change or cancel plans ( $\beta = .197, p < .001$ ), difficulty having intimate or sexual relationships ( $\beta = .165, p < .001$ ) and trouble participating in physical activities ( $\beta = .157, p < .001$ ) as significant predictors over and above RA unpredictability ( $\beta = .127, p < .001$ ), ( $R^2 = .390, F_{7,3848} = 352.994, p < .001$ ).

This is intriguing as our results point toward decreased quality of life and functionality as strong drivers of exacerbated self-perception, beyond RA severity alone. Discussing the results with a broader audience is the first step in disseminating the findings and advocating for further research. It will be important for future studies to continue examination of

biopsychosocial outcomes in those with RA and particularly those related to exacerbated self-image.

## Project Timeline

In list format, please provide a timeline for your EURēCA! Fellowship, including all milestones, goals, and products described above. Begin with the award date and culminate with your required presentation at RaCAS.

### Timeline Example 1:

October:

- Communicate with local cemeteries and funeral homes to build connections
- Contact Denver Public Library, begin reading and researching
- Photograph artwork
- Halloween and Day of the Dead

November:

- Continue researching and communicating with organizations
- Reach out to living descendants of the deceased (if possible)

December:

- Continue researching and communicating with people
- Compile stories, organize book
- Begin laying out website

January:

- Continue researching and communicating with people
- Craft images and written words for the website and book
- Experiment with rough drafts of the book

February:

- Continue researching and communicating with people
- Refine the content and details of the website and book

March:

- Prepare RACAS presentation
- Finalize website design
- Publish first draft of the book, make any necessary edits

April:

- Organize digital exhibition
- Donate final copies
- Present at RaCAS

### Timeline Example 2:

October:

- Run crude PCR to determine ratio of bacterial DNA to fish DNA; select samples for analysis
- Practice purifying protein-free genomic DNA using Ampure Bead cleanup protocol
- Participate in QIME software training

November:

- Purify Genomic DNA using XP/SPRIselect Bead Cleanup protocol
- Attend QIME Workshop, complete QIME trainings
- Perform computational analysis

December:

- Write up final report
- Graduate

January-April

- Work with mentor to complete project write up and paper submission
- Return to CU Denver to present at RaCAS

### **Timeline Example 3:**

1. Experiment design and data collection – Fall semester 2020
  - Programming and debugging (underway)
  - Pilot data collection
  - Data collection of 75 participants online
  - Initial data analysis
2. Submit abstract for Vision Sciences Society (VSS) Conference – December 3rd, 2020
3. Data Analysis – Ongoing with data collection, finalized by April 2021
  - Planned analyses
  - Exploratory analyses
4. Write-up of findings – April 2021
5. Present at RaCas – April 2021
6. Attend VSS Conference – May 14-19, 2021
7. Defend thesis and graduate – April/May 2021

## **Budget Narrative**

Specify the full amount being requested along with an itemized list of expenditures and justification. Explain how the budget items support the project and objectives.

- If you are requesting supplies, include a price estimate and source for that estimate.

- If you are requesting a conference, workshop, or travel grant, explain how the event will further your professional development as a scholar.

### **Example 1: Travel/ Conference Request of \$500**

- Conference Title registration: \$290.70 USD.
- Registering for this conference will allow me to finally attend a conference full of theoretical and computational chemists from all around the world. Having previous conference plans being disrupted by COVID-19, I will finally be able to see the minds of great scientists at work, learn more about my field of research from those more knowledgeable, and have the opportunity to network.
- Left over stipend amount: \$209.30 USD - Round trip to/from locations between on xyz dates: \$400.00 USD
- The remaining \$209.30 USD will be used to partially pay for the \$400.00 USD round trip plane ticket.

### **Example 2: Supplies Request of \$500**

- Hahnemuhle Glossy Fine Art Paper 17x22 – 25 pk. (Price Estimate: \$170)
- I will use 17x22 Hahnemuhle Glossy Fine Art Paper to make some of my final prints for my exhibition at Conference Name.
- Hahnemuhle FineArt Baryta Paper 235gsm 36 in x 39 ft/roll. (Price Estimate: \$250.00).

- This is a roll of Hahnemuhle FineArt Paper that will assist me in printing on a larger scale other than 17x22.
- Other exhibition supplies TBD (Price Estimate: \$80)

### **Example 3: Supplies Request of \$500**

- P-S6 Ribosomal Protein (S235/236) Rabbit Ab (antibody) - \$300 (Source: CelSignaling Product #: 2211L)
- Biotin-SP-conjugated AfinniPure Goat Anti- Rabbit IgG (H+L) secondary antibody - \$200 (Source: Jackson ImmunoResearch Product #: 111-065-003)
- These budget items support the project and objectives because they will allow me to perform immunohistochemistry in order to gather data on whether there are age differences in rats who experience a stressful event and display social buffering or social conditioned fear.

### **Example 4: Supplies Request of \$500**

- Funds will be used to attenuate rat costs (in conjunction with PI grant support) such as purchase price and shipment fees.
- Sprague-Dawley rats are approximately \$50 a piece for adolescent age (PND 41-43), and approximately \$65-\$100 each for adult age (PND 75-90) depending on the sex. Rats are the models for my A Social Behavior Comparison of Fear and Buffering of Adolescent and Adult Rats

Pricing Resource: <https://www.envigo.com/model/hsd-sprague-dawley-sd>

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