

## **Spatial Sciences Institute Summer 2021 Internships**

The Spatial Sciences Institute has partnered with the USC Sea Grant Program and the Southern California Association of Governments to offer virtual unpaid internships in the Summer 2021 semester.

**These internships may be undertaken for credit by undergraduates by registering for SSCI 397: Spatial Sciences Internship or by master's students by registering for SSCI 596: Internship in Spatial Sciences.**

The specific start and end dates, weekly schedule, and milestones will be determined by project leads with the students selected for the internships. Generally, interns should expect to commit an average of 10 hours per week throughout the semester.

These internships are open to USC students of any major, but require a background in GIS, either through coursework or by experience. Students who have been selected for an SSI funded faculty research project are not eligible for one of these internships.

### **To Apply:**

Please submit your resume, statement of interest for the internship opportunity you are applying for, and your STARS report to **Susan Kamei**, SSI Managing Director, at [kamei@usc.edu](mailto:kamei@usc.edu) by **5 pm on Friday, April 16, 2021**.

If you would like to be considered for more than one internship opportunity, please indicate that in your statement of interest, along with your priority ranking.

In addition, SSI is pleased to share information about internships offered by organizations which are accepting applications directly. Applicants interested in applying to the City of West Covina, the Southern California Earthquake Center, or the Global TechnoPolitics Forum should submit their applications via the links in the internship descriptions below.

**For questions or more information** please contact Susan Kamei at [kamei@usc.edu](mailto:kamei@usc.edu) or Ken Watson, SSI Academic Programs Director at [watsonke@usc.edu](mailto:watsonke@usc.edu).

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### **USC Sea Grant Program:**

The USC Sea Grant Program has undergraduate internship opportunities that offer the chance to learn about USC Sea Grant efforts and apply geospatial skills to “real world” coastal and environmental issues.

The summer opportunity involves researching and creating a geodatabase of environmental education organizations and initiatives in Los Angeles County. USC Sea Grant has a strong record of connecting ocean sciences and policy to education through partnerships and engaging with local communities. This project would serve as a resource to environmental educators in the community with visualizations and research findings used to identify ongoing efforts, potential partnerships, and gaps.

**Recommended minimum skills/preparation:** Experience with story maps.

**Ideal skills/preparation:** previously taken SSCI 301: Maps and Spatial Reasoning course.

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### **Southern California Association of Governments (SCAG), Planning Division:**

As a metropolitan planning organization – the largest in the nation – Southern California Association of Governments (SCAG) is responsible for developing long-range transportation plans and a Sustainable Communities Strategy for a vast and varied region, which includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The centerpiece of that planning work is Connect SoCal, our 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Plan charts a path toward a more mobile, sustainable, and prosperous region by making key connections: between transportation networks, between planning strategies and between the people whose collaboration can make plans a reality.

Connect SoCal is one of multiple projects that SCAG is responsible for—other projects, for instance, are the Regional Housing Needs Assessment (RHNA) and Environmental Justice (EJ) Analysis. There are various projects created to support the development of the major projects such as SCAG Data/Map Books, Retail Land Use Studies, Local Profiles, and General Plan Data/Map Books. Geographic information system (GIS), data science, architectural design, mathematics, artificial intelligence, and urban planning backgrounds are key to make these projects successful. As such, SCAG is seeking potential resources to solve a vast array of regional planning and environmental issues (e.g., job/housing imbalance, housing affordability, emerging technologies, etc.).

On the other hand, one of SCAG’s mission is to provide services to its local partners; one of which is career development for students from local universities in the region. SCAG has been successful with such service from Cal Poly Pomona (CPP), Cal State University Northridge (CSUN), University of California Los Angeles (UCLA), and University of Southern California (USC).

As part of the University Partnership Program, SCAG proposes to partner with the USC Spatial Sciences Institute to provide GIS and technical assistance. Under general supervision, students will learn and perform a variety of administrative and technical duties in support of the Research and Analysis Department of Planning Division. This position will primarily assist in performing spatial database management, mapping, and geoprocessing, conducting research and data analysis, and providing GIS services.

#### **PROJECTS:**

##### **1. Regional Land Use Data Development:**

- **Project timeline:** Spring 2021 – Fall 2021
- Updating parcel-level land use information for 191 cities and 6 counties in the SCAG Region
- Including general plan land use, specific plan land use, zoning, and existing land use
- Leveraging Python programming with ArcGIS to automate workflows
- Digitizing land use and density/intensity information in GIS format

##### **2. SCAG Data/Map Book Development:**

- **Project timeline:** Summer 2021 – Winter 2021
- Producing 197 Data/Map Books for 191 cities and 6 counties in the SCAG Region
- Leveraging Python programming with ArcGIS to automate mapping/visualization workflows

*Potential candidates will be helping two to three days a week up with at least 10 hours.*

**Student Qualifications:**

Ideal candidates should understand whole systems of components workflow – from planning procedures, data geoprocessing, and land use policies to architecture geo-design, environmental impact computational assessments by using computer simulations, modeling, numerical techniques, and statistical data analysis.

**Expected Outcomes:**

The major expected outcomes for students would be regional planning knowledge and enhancement in GIS and programming skills (e.g., Python, SAS, R, VBA, etc.). SCAG utilizes state of the art technologies and methodologies to support and develop Connect SoCal. As such, students would learn how to work professionally with SCAG staff and achieve potential skills such as collaboration, communication, presentation, and organization.

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**City of West Covina, CA:**

This is a Geographic Information System (GIS) internship opportunity in the Division of Information Technology in the City of West Covina, CA. The primary function of this position isto perform GIS work, as assigned with an emphasis in cartography and database maintenance.

**Examples of Duties:**

- Update the GIS utility layers

- Perform data acquisition and maintenance on GIS and non-GIS datasets

- Create maps and exhibits

- Assist in the preparation of mapping requests for

- City Staff

- Technical problem solving

- Story Mapping

The ideal applicant will have strong attention to detail and should be familiar with Microsoft Excel and Microsoft Word. The ideal applicant will also need to possess knowledge of GIS principles, familiarity with computer software, especially Esri ArcGIS Desktop.

**Required Background Screening/Reference Check:**

Prior to placement, applicants may be asked to submit contact information for reference checks. A LiveScan criminal record check through the California Department of Justice will beconducted. A social security number and valid state-issued driver's license are required for the LiveScan.

**To apply for this position**, please submit your materials directly to the hiring department via their website below and notify Ken Watson at [watsonke@usc.edu](mailto:watsonke@usc.edu) for clearance to register in SSCI 397: Spatial Sciences Internship.

**Application:** <https://www.governmentjobs.com/careers/westcovina/jobs/2644896/gis-intern-unpaid>

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### Southern California Earthquake Center:

Applications for Summer 2021 undergraduate internships with the Southern California Earthquake Center (SCEC) are now being accepted. Learn more and apply at <https://www.scec.org/sources>.

#### Sources undergraduate interns benefit from:

- A remotely mentored research experience that contributes to advancing earthquake science
- Weekly (remote) meetings with their SCEC mentor to make progress on the research project
- Professional development webinars coordinated by SCEC
- An opportunity for students to present their research at a professional conference (when possible)
- A visit to the mentor's institution (when possible)
- A weekly student stipend of \$600 per week, for 6 to 12 weeks (duration to be determined based on project needs)

Undergraduate students interested in earthquake science research are encouraged to apply. If you are interested in this position, please apply directly to SCEC.

**Application:** <http://ce.scec.org/education/college/internships/application.php>.

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### Global TechnoPolitics Forum:

Starting Spring 2021 through Summer 2021

The Forum is a not-for-profit 501C (3) educational institution registered in California. It is an independent, non-partisan, innovative, dynamic, and task force organization. Its mission is to shape the public debate and facilitate global coordination at the intersection of technology and geopolitics.

The Forum is growing fast, and interns are central to our efforts as we champion a path forward to a sustainable future. Our internship program offers opportunities to gain valuable work experience, explore a career path, gain an edge in the job market, develop, and refine work skills, and gain confidence. We seek interns who are committed to our mission, are talented, enthusiastic, effective communicators, entrepreneurial, collegial, and enjoy the fast pace of learning and growth.

The mapping intern will work as part of a team to support the research process of defining, collecting, coding, and mapping the data. Data sets may include but not be limited to geography and climate; population centers; resource/commodity locations which might drive development; existing transport, communications, and industrial infrastructure; existing military bases and infrastructure; industry and infrastructure sources of financing; types of government practices related to rule of law and digital governance; levels of economic and political partnerships in the area, etc.

International students are welcome to apply, but candidates must be authorized to work in the United States since we do not sponsor visas for interns.

**Apply here:** <https://www.surveymonkey.com/r/LW7G3G5>

**Deadline:** Applications will be reviewed on a rolling basis and will continue until a successful candidate has been selected.