Old Dominion University's (ODU) Library & Information Studies Program requests $328,678 in funding for a three-year Early Career Research Development Grant directed by Dr. Kevin J. Mallary, an assistant professor in his second year on the tenure track. The purpose of this project is to enhance the accessibility of academic librarians' information services to patrons who are d/Deaf or hard of hearing (D/HH). **Two research questions guide the project: What knowledge and skills do academic librarians need to deliver accessible information services to patrons who are D/HH (RQ1)? What are D/HH patrons' perceptions of the accessibility of information services in academic libraries (RQ2)?** Results from the project shall (1) be published in peer-reviewed scholarly journals relevant to academic libraries and disability services in higher education and (2) inform evidence-based practices for academic librarians and disability services coordinators to enhance the accessibility of information services to D/HH patrons.

Project Justification: Academic librarians are increasingly expected to serve disabled patrons, including D/HH students (Bresnahan, 2022; Potnis & Mallary, 2022). Patrons who are D/HH comprise 5% of students enrolled in higher education institutions (Garberoglio et al., 2019a). Compared to other disabilities, librarians possess more limited knowledge of D/HH patrons' information needs (Brunskill, 2020; Brunskill et al., 2021). This limitation may be the case since members of the D/HH community differ considerably in communication and learning preferences (National Deaf Center, 2023). For example, some D/HH patrons might benefit from observing sign language interpreters during information literacy instruction or reading captions alongside audiovisual materials, whereas others prefer using headphones at computer workstations or studying with peers using video relay services (Cross, 2020; Litwak, 2021; Murphy et al., 2019). Although librarians are ethically and legally responsible for making their spaces and collections accessible to all patrons (Havelka & Arzola, 2021; Peacock & Vecchione, 2020; Pope & Creed-Dikeogu, 2022), librarians who lack sufficient knowledge of D/HH patrons' information needs cannot effectively serve them, leaving these patrons without the same quality information as their hearing peers (Murphy et al., 2019; Tanasse, 2021).

This project aims to satisfy Goal 2, precisely Objectives 2.1 and 2.3. Addressing Objective 2.1, RQ1, and RQ2 are *needs assessments* of academic librarians and D/HH patrons, respectively. RQ1 elicits the knowledge and skills that librarians need to deliver accessible services to D/HH patrons, and RQ2 invites patrons who are D/HH to share their perceptions of how satisfactorily librarians enable them to receive and learn from information equitably. The project satisfies Objective 2.3 since it supports Dr. Mallary's tenure-track research agenda, which focuses on delivering accessible information services to disabled students in academic libraries and higher education. Publications resulting from Mallary's project will advance his tenure.

Project Work Plan: This proposed project shall last three years, with activities occurring between August 1, 2024, and July 31, 2027. In the first year (August 1, 2024 – July 31, 2025), Mallary will work with a Graduate Student (GS) to develop interview protocols for collecting data from academic librarians and D/HH students. Mallary's prior work on academic library services for disabled patrons shall inform the interview protocols (Mallary, 2022; Potnis & Mallary, 2022). Sample interview questions include:

Sample Questions for Academic Librarians	Sample Questions for D/HH Students
● From your experience, are there common practices in libraries that are inaccessible to [D/HH] patrons? ● What equipment or services does your library offer [D/HH] patrons to enhance their library experiences? ● What input has your library received from [D/HH] patrons, and how has it influenced your services?	● Can you describe your experiences using the campus library as a [D/HH] patron? ● What assistive technologies or accommodations have you used in the library, and how have they helped? ● When seeking assistance, how do you communicate your needs or preferences to library staff?

After developing the protocols, Mallary and the GS will seek ODU's Institutional Review Board (IRB) approval to conduct pilot interviews with librarians and D/HH students at ODU. To recruit D/HH students for pilot interviews, ODU's Office of Educational Accessibility (OEA) will send an IRB-approved recruitment email to students registered for accommodations. By sending this recruitment email, OEA shall lend credibility to the research and conceal D/HH students' protected health information from Mallary and the GS. Data from pilot interviews will inform any needed amendments to the protocols to be submitted to ODU's IRB before collecting future data.

During the second year (August 1, 2025 – July 31, 2026), Mallary and the GS shall attend the Association for Library and Information Science Education's (ALISE) conference to solicit feedback on the interview protocols and pilot data from experts in accessible academic library services. After attending ALISE, they will amend the protocols with ODU's IRB. Then, they will conduct physical and virtual interviews with librarians and D/HH students at ODU's community partner, Tidewater Community College (Norfolk, Virginia); The University of Tennessee (Knoxville); and Wake Forest University (Winston-Salem, North Carolina). Data will be collected from these sites because 45.2% of D/HH

students attend community colleges such as Tidewater, 19.8% are enrolled in public universities like The University of Tennessee, and the percentage of D/HH students who attend private universities (e.g., Wake Forest) (26.0%) is greater than that of hearing students (23.1%) (Garberoglio et al., 2019b). Also, Mallary has researched at The University of Tennessee and Wake Forest and has relationships with both institutions' director of disability services. The directors will send the IRB-approved recruitment email to students registered with their offices. Across the four institutions, 12 librarians and 18 D/HH students will be interviewed. Twice that year, Mallary and the GS will travel to Knoxville and Winston-Salem to conduct physical interviews. No travel will be required to visit Tidewater. Any academic librarians or D/HH students unable to participate in physical interviews shall have the opportunity to participate virtually. An expert live transcriptionist will caption each virtual interview. A professional sign language interpreter (American Sign Language or otherwise) will be available upon a participant's request for any physical or virtual interview. Interviews will be audio recorded separately by Mallary and the GS to prevent data loss and ensure the accuracy of transcripts. Every student will receive a $25.00 Amazon gift card for participating. Consistent with the Grounded Theory Method (GTM) (Morse et al., 2021), Mallary and the GS shall simultaneously collect and analyze interview data throughout the year. To ensure the findings' rigor, they will analyze the data during multiple initial, axial, and theoretical coding rounds until saturation is achieved (Saldaña, 2021). Further, Mallary and the GS will ask participants to verify the findings via member-checking (Denzin & Lincoln, 2024). To conclude the year, they will present preliminary findings at the American Library Association's (ALA) conference, inviting practitioners to discuss evidence-based practices.

The final year (August 1, 2026 – July 31, 2027) shall include sharing findings during ALISE, ALA, and the Association on Higher Education and Disability (AHEAD) conferences. Both Mallary and the GS will travel to these conferences, premier venues for presenting research on the accessibility of academic library services for D/HH students. Additionally, they will spend the year submitting manuscripts to relevant academic journals. The **theoretical framework** underlying the interview protocols, data analysis, and resulting publications integrates the *social model of disability* (Barnes, 2019) and *information needs* (Case & Given, 2016). The social model of disability considers how stakeholders' attitudes toward disability and an institution's practices shape disabled patrons' experiences using library services (Vaughan & Warlick, 2020). Information needs are concerned with the knowledge and skills that academic librarians require to serve disabled students effectively, as well as these students' perceptions of how satisfactorily librarians enable them to receive and learn from information equitably (Brunskill et al., 2021; Peacock & Vecchione, 2020). Findings will build upon the theoretical framework and identify relationships worth further research.

Diversity Plan: This project shall advance the values of diversity, equity, inclusion, and accessibility, which are fundamental to librarianship (American Library Association, 2023). Academic librarians and students participating in this research will be diverse in race, ethnicity, gender, age, and abilities. Since every librarian and D/HH student at each institution will be eligible for participation, the research design is equitable and inclusive. Further, because Mallary is a member of the D/HH community, he expects to build an authentic rapport with participants and produce meaningful results that contribute to more accessible information services in higher education.

Project Results: While findings from a small qualitative study can be difficult to generalize, Mallary and the GS will validate the project results with accessibility experts and participants. To capture the nuances of academic library services for diverse D/HH patrons, participants will be sampled from (1) a large community college with nearly 25,000 students (Tidewater Community College, 2023), (2) a regional public research university with 23,494 students (Old Dominion University, 2023), (3) a flagship public university with 33,805 students (The University of Tennessee, 2023), and (4) a private liberal arts university with 8,963 students (Wake Forest University, 2023). The results will advance Mallary's mixed-methods research agenda by applying the findings to a larger, quantitative study in the future. Ultimately, the project results will inform evidence-based practices for academic librarians and disability services coordinators to empower all patrons to receive and learn from information equitably.

Budget Summary: Dr. Mallary requests $328,678 to support the three-year project. **Salaries and wages** shall include Mallary's effort (three summers at 25% compensation) and an annual course release ($20,038). Wages and tuition assistance for a Ph.D. Student will total $147,216. This project will provide the student with invaluable experience conducting field research and presenting and publishing research. Further, the GS shall build practical knowledge and skills for enhancing the accessibility of information services to D/HH patrons in the student's career. **Travel costs** of $32,044 will include registration, airfare, rental vehicles, hotels, parking, and *per diems* for Mallary and the GS to participate at ALISE (2025, 2026), ALA (2025, 2026), and AHEAD (2026). Mileage, hotels, parking, and *per diems* will also be needed to collect data in Knoxville and Winston-Salem in 2025. **Materials, supplies, and equipment** totaling $9,650 will include Verbit live transcriptions, Jeenie sign language interpreting, two Sony digital voice recorders, and $25.00 Amazon gift cards for D/HH students. These services and tools are needed to make the project most accessible to participants and produce meaningful findings. Over the project's duration, **fringe costs** will total $13,046, and **indirect costs** (60% calculated rate) shall equal $106,684.