



NBCE'S PSYCHOMETRIC SUMMER INTERNSHIP 2021

Due to the COVID-19 pandemic, the 2021 internship will be entirely virtual

Overview. The National Board of Chiropractic Examiners (NBCE) is an independent third-party testing agency for the chiropractic profession. Headquartered in Greeley, Colorado, USA, the NBCE was incorporated in 1963; it administered its first exams in 1965. The NBCE was created to meet the regulatory needs of state licensing boards. NBCE's exams include testing of pertinent clinical decision-making as well as assessment of appropriate patient interactions.

Today, all 50 states and the District of Columbia require successful completion of the NBCE examinations for licensure, providing the chiropractic profession a single pathway to licensure.

The mission of the NBCE is Ensuring Professional Competence through Excellence in Testing. In support of that mission, we design and administer assessments that are useful for the chiropractic profession, its regulators, and the public at large. As the global leader in chiropractic testing, we understand the importance of advancing assessment in the 21st century. To promote excellence in measurement, the NBCE is offering the Psychometric Summer Internship. The intern will contribute to the innovation and advancement through involvement in the NBCE's testing programs.

The NBCE's Psychometric Summer Internship is a two-month program beginning on June 1, and ending on July 31, 2021. The intern will have an opportunity to work with the psychometric team through scoring cycles of two programs—the Part II and Part IV exams. The intern will collaborate with the staff in the NBCE's Department of Psychometrics and Research under the supervision of the Director. The intern may have an opportunity to propose a research project, which may involve the use of NBCE's data. This project may be long-term and continue beyond the internship dates. The details of such collaboration will be established with the intern on an individual basis. All finalized deliverables will be provided to the NBCE at the completion of the internship; however, the intern may be invited to return to the NBCE after the internship to present the report and findings of the long-term collaboration.

Internship Description. The internship will offer an opportunity to work with the operational data from NBCE's routine testing programs, and developing a project that fits the intern's research interest, as well as the overall NBCE's needs. The intern will have an opportunity to:

- Observe and participate in the complete cycle of operational scoring:
 - Data validity verification
 - Analyses based on Classical Test Theory (Diagnostic Item Analysis)
 - Post-exam review
 - Item calibration using 2PL/3PL or Graded Response models
 - Scaling and equating
- Collaborate on NBCE's current research projects that may lead to conference presentations and/or publications in peer-reviewed measurement journals
- An opportunity to propose a dissertation using NBCE's data
- Continue to collaborate with NBCE staff beyond the internship until the completion of the project
- The work hours are not to exceed 30 hours per week

Areas of Possible Research Interests

- IRT models for testlet items and items violating assumptions of local independence
- Exam/item reduction and decision consistency studies
- Innovative methods in forensic statistical methods (methods to detect aberrant testing behavior)
- Innovative methods for testing IRT model fit
- Psychometric methods with latent variables
- Score stability (anchor stability) and parameter shift studies
- Equating and scaling studies
- Validity studies

Qualifications

- University of Northern Colorado, Department of Applied Statistics and Research Methods doctoral student. Preference will be given to doctoral students in their final stages of the program.
- Knowledge of mathematical statistics. Proficiency in Applied Linear Modeling (Applied Statistics, Applied Regression Analysis), Logistic Regression Modeling, Factor Analysis, Classical Test Theory, and IRT is essential and required. (Students are expected to have excelled in SRM 502, SRM 610, SRM 611, SRM 625, and PSY 674, for example.).
- The candidate should be proficient in a data management software (at least one: SAS, SQL, R), a software for statistical modeling (at least one: SAS, SPSS, R, STATA), and a software for modeling with latent variables (*Mplus*).

Award. The NBCE's Psychometric Internship will provide a \$6,000 stipend.

Application Procedure. Applicants should submit a curriculum vitae, a graduate school transcript (does not need to be official), a writing sample, and a statement of purpose describing the interest in the internship and general research interests. Application materials may be emailed or mailed to the NBCE and must be received by **April 30, 2021**. The internship award will be announced by **May 15, 2021**. Materials and/or questions should be submitted to:

Igor Himelfarb, Ph.D.,
Director of Psychometrics and Research
National Board of Chiropractic Examiners
901 54th Ave.
Greeley, CO 80634
e-mail: ihimelfarb@nbce.org

