

# KENT STATE UNIVERSITY CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date **1-Sep-19** Curriculum Bulletin \_\_\_\_\_

Effective Date ~~Fall 2019~~ **2020** Approved by EPC \_\_\_\_\_

Department \_\_\_\_\_

College **AS - Arts and Sciences**

Proposal **Establish Center**

Proposal Name **Center for Research and Innovation in Translation and Translation Technology (CRITT)**

Description of proposal:

**CRITT was founded over a decade ago in Europe. Professor Michael Carl, the Director, moved to Kent State University as Tenure Track Professor and is seeking to officially move and establish CRITT as a Center at University.**

Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need, audience)

**No policy or procedural issues. No duplication of existing programs in the University. Staffing considerations are being addressed internally in the department and college. The Center has been in operation as a stand alone unit for more than a decade. The proposal will establish the Center as officially a Kent State University unit, and provide research opportunities for students and faculty across associated departments and programs.**

Units consulted (other departments, programs or campuses affected by this proposal):

**Department of Modern and Classical Studies, Department of Psychological Sciences, Department of Computer Science**

## REQUIRED ENDORSEMENTS

\_\_\_\_\_  
Department Chair / School Director           /          /          

\_\_\_\_\_  
Campus Dean (for Regional Campuses proposals)           /          /          

*Mary Ann Haley*  
College Dean (or designee)           9 / 27 / 19          

\_\_\_\_\_  
Dean of Graduate Studies (for graduate proposals)           /          /          

\_\_\_\_\_  
Senior Vice President for Academic Affairs and Provost (or designee)           /          /          

*CAS-CRITT  
2*

## **Proposal Summary to Establish an Academic Administrative Structure**

### **Center for Research and Innovation in Translation and Translation Technology (CRITT)**

**The following is from 3343-2-03 *University Policy Regarding the Establishment or Revision of Academic Administrative Structures.***

#### **1. The quality of the faculty, students and programs.**

The Program Advisory committee for the proposed Center is made up of senior faculty members drawn from the associated departments of Computer Science, Modern and Classical Language Studies, and Psychological Sciences. Included are Professor Arvind K. Bansal, Professor Isabel Lacruz, Professor Manfred H. M. van Dulmen, Professor Javed Iqbal Khan, Professor Françoise Massardier-Kenney, and Professor Michael Carl.

At present two Research Assistants (one each from Computer Science and MCLS) and two additional graduate students (again from Computer Science and MCLS) are working in the Lab. It is expected that there will be additional graduate students working in the CRITT Lab drawn from additional graduate degree programs.

The reputation of the independent free-standing CRITT is such that in the present academic year there are two visiting scholars (doctoral student from Renmin University of China, and a professor from Southwest University, China) who are funded by their respective institutions to work in Professor Carl's lab at Kent State University.

#### **2. Centrality and coherence to the mission and strategic directions of the university and other academic units.**

In a world of growing globalization and increasing mobility, more and more people find themselves in situations which involve some sort of translation. Messages are adapted to new situations, local texts are transferred to global contexts, and global texts are localized into multiple languages. The production of knowledge, entertainment, services and industrial products requires interaction and communication across languages and cultures. Translation, interpretation and exchange of knowledge and information are becoming an integral part of both global production processes and of the way we think, communicate and construct our cultural identities. The Center for Research and Innovation in Translation and Translation Technology (CRITT) at Kent State University will support and investigate psychological, societal, and technological processes focusing on empirical, data-driven methods.

As the College of Arts & Sciences launches a Data Analysis Initiative Committee, CRITT will contribute to streamline faculty expertise, support development of degree programs, and provide access to large scale data-sets. Over the past 10 years, CRITT has gathered the largest coherent behavioral database of language processing (gaze-data and keystroke logging) for text production (authoring, translation, post-editing, spoken, written) and text reception (reading for different purposes) in the world, and developed a proprietary software to collect, annotate, visualize and analyze the data. The general purpose of CRITT is to maintain, extend, analyze, and disseminate this data and to include research activities from neighboring disciplines.

The primary aim of the research carried out at the CRITT is to:

- build up new knowledge of translation and communication processes
- investigate human gestures and emotion during written and spoken language processing
- explore human/machine symbiotic communication and learning strategies
- provide a basis for technological innovation in this field

The center's research looks outward at the transformational processes in organizations and societies that are significant features of globalization, and it also looks inward at the mental and language processes which constitute communication and translational expertise.

### **3. Comparative advantage versus other structures.**

CRITT was founded over a decade ago in Copenhagen by Prof. Arnt Lykke Jacobsen. Upon his retirement in 2014, Prof. Jacobsen turned over the Center and its directorship to Dr. Michael Carl. CRITT operations (including the continued laboratory research projects, and the administration of sustainable academic programs and educational ventures) moved to Kent State with Professor Carl in Fall 2018. The purpose of this Proposal is to *officially* establish CRITT as a multidisciplinary center in the College of Arts & Sciences.

CRITT will be a Kent State University inter-departmental Center, involving faculty from three departments:

1. **MCLS**: contributes expertise in language and translation processes
2. **Psychology**: adds expertise in cognitive modelling and empirical methods for analysis of data
3. **CS**: contributes computational methods for data preparation, production of auxiliary computer programs, feature extraction, database management, machine learning etc.

#### **4. What makes the unit particularly appropriate for Kent State University?**

MCLS has a world-wide respected PhD program in translation studies. Just as humanities in general, translation studies have experienced a rise in empirical studies in the last decade. The CRITT expresses this trend with its proprietary database (Translation Process Research Database, hereafter TPRBD), research tools and methodologies, which are at the core of the Center and are already housed and in operation at Kent State. CRITT brings to Kent State specific experimental and quantitative methods that complement teaching at an advanced graduate level and offers new interdisciplinary research possibilities for translation, psychology and computer sciences PhD students and faculty.

CRITT adds expertise in Computational Linguistics (CL) and Natural Language Processing (NLP) to the portfolio of the CS department. It links behavioral and cognitive studies with computational (data analysis, machine learning, etc.), CL and NLP methods.

#### **5. Demand for the unit and for the graduates of the unit.**

Graduate and PhD students at Kent State are already affiliated or involved in the Center's activity. The Center provides advanced training for PhD students in the MCLS, CS and Psychology programs to develop skills in research and data analysis that enhances their prospects as researchers and teaching scholars.

#### **6. Duplication and interrelatedness of the unit's program(s) within the university, state, and region**

KSU has no similar center unit that currently exists, no teaching of NLP in the CS department, no combination of reading/writing behavior research (eye tracking / keyboard logging) and computational-linguistic analysis.

CRITT was the first center of its kind when founded over a decade ago. The status and reputation of CRITT is such that it is readily identified internationally for its research achievements and training programs. It is fair to say that CRITT is singular and enjoys the status of a brand for its research and innovations in translation technology.

CRITT research, programming and administration will be identified as an official Center at Kent State University.

## **7. Efficiency and effectiveness of the unit in leveraging existing resources and expanding new resources.**

By securing CRITT as a Center at Kent State University, housed in the College of Arts and Sciences, is to leverage an existing unit brought to the university with the hiring of Professor Carl. Along with the reputation of the existing center as a global leader in research and innovations in translation and translation technologies, the center provides for a focused opportunity to leverage existing resources (both existing Kent State resources as well as the resources of CRITT) to expand external funding. CRITT has an established record of securing external funding in support of its academic mission. What is more efficient than effectively integrating an existing successful independent self-sustaining unit that immediately serves to enhance the research productivity and academic mission of multiple graduate programs in the University? And given the continued growth and development of technologies related to translation, we anticipate that CRITT will provide opportunities for additional external funding.

What makes language processing easy and what makes it difficult? How are text comprehension difficulties related to problems in text re-production, such as paraphrasing, summarization and translation? How can computer applications facilitate text comprehension, text production and translation across different languages? These and similar questions have been at the core of numerous psycholinguistic and translation studies which assess the cognitive load imposed by different modes of first and second language processing. While these studies have been based on relatively small-scale individual studies, large databases of behavioral text production data, such as the TPRDB, open completely new possibilities to ground our fundamental insights into text processing difficulties across different processing modes in empirical observations.

The TPRDB provides a framework to collect and analyze behavioral data, which will increase our scientific understanding of the underlying linguistic, psychological and social mechanisms involved in production, perception, and comprehension of language. It will build understanding of how to devise texts that are easier to understand, paraphrase (hence modify) and to translate by revealing computational properties of language that make fluent production and incremental comprehension easier. It will facilitate communication between individuals and across cultures and facilitate informed decision making across all sectors of society, allowing citizens, including minorities and the economically or educationally disadvantaged, to take control of critical decisions made using new technology in areas involving privacy, security, health, environment, finance, and law.

CRITT will involve a number of faculty from KSU interested in research and education how language is processed in humans and machines, from a computational, psychological and sociality point of view, involving mono- and multilingual, written and spoken language, as well as gestures and other forms of semiotic systems.

CRITT takes an empirical perspective firmly based in data sciences. Based on its behavioral database and analysis methods, CRITT has a problem driven approach: brainstorming of research questions, project design, and methods for data analysis are instrumental to open up new possibilities for developing, implementing, analyzing, and testing novel metrics for investigating user activity data within the goals of the project.

#### **8. Administrative reporting structure.**

Director of CRITT reports to the Dean and consults with the board of advisors.

#### **9. Space and capital budget needs.**

No new funds are requested for the establishment of CRITT as a Kent State University Center. The CRITT lab space is already in operation in Satterfield Hall. To date, CRITT has been self-sufficient through funding secured from external sources. Professor Carl and the affiliated faculty have and are pursuing external funding to support the mission of CRITT.

#### **10. A proposed operating budget with any one-time resource needs.**

The Director received start-up funding and spending plan as a new faculty member beginning Fall 2018 to be distributed over three academic years. These expenditures support Equipment/Supplies, Research Assistant, Travel and Summer Stipends. Directing the Center is supported through an allocation of Professor Carl's faculty workload.

#### **11. Evaluation procedures including academic assessment procedures.**

CRITT has a history of high scientific productivity.

- CRITT has produced more than 100 publication over the past 10 years
- Organized eight highly successful summer schools between 2011 and 2016
- Four summer boot camps, including a summer boot camp in 2019 at KSU
- Sponsored more than a dozen conferences, workshops and panels.
- Several PhD and MA thesis were/are based on the CRITT's TPRDB and its analysis and visualization tools. Among others:
  - 3 PhD dissertations, Kent State University, Modern and Classical Language Studies
  - 3 PhD dissertations, 2 MA thesis, Copenhagen Business School, Department of International Business Communication.
  - 2 PhD dissertations (unknown number of MA thesis), Johannes Gutenberg-Universität Mainz, Translations-, Sprach- und Kulturwissenschaft.

- 2 PhD dissertations, Ghent University, Belgium, Faculty of Arts and Philosophy.
  - 1 PhD dissertation, Durham University, UK, School of Modern Languages & Cultures.
  - 2 PhD dissertations, Renmin University of China, School of Foreign Languages:
  - 1 PhD dissertation, Hunan University, China, School of Foreign Languages:
- CRITT continues to be involved and contribute in numerous national and international projects.
    - Currently active international projects:
      - 2018-2021 Modelling Parameters of Cognitive Effort in Translation Production (Memento)
      - 2019-2020: Improving Products and Processes in Translation Technology Use (IMPETUS)
    - National project proposals under review:
      - Word Translation Entropy-based Translation Difficulty Indicator, Amazon

CRITT at Kent State University has and will continue this broad spectrum of activities. The performance of CRITT will be assessed on a yearly basis in the first two years, after this an evaluation will take place every 5 years. Evaluation will be based on:

- Number of students and researchers involved in the center's activities.
- Number of dissertations (MA and PhD) produced in the context of the center's core activities
- Scientific events organized, such as conferences, workshops, tutorials and meetings, faculty exchange, colloquia and talks etc.
- Scientific output, i.e. papers in journals, on national and international conferences and workshops etc.
- Number of research proposals produced and number and size of successful research proposals.
- The successful securing of external funding to support the research mission of the Center.

## **12. A timetable for proposal implementation.**

Given that the Center exists and is operating, the purpose of this proposal is to establish the Center as a unit in the University.



To: David Odell-Scott, Associate Dean, College of Arts & Sciences  
From: Maria S. Zaragoza, Chair, Department of Psychological Sciences  
Date: 9/16/19  
Subject: Proposal to establish Center for Research & Innovation in Translation & Translation Technology (CRITT)

I read with enthusiasm the proposal to establish a Center for Research and Innovation in Translation and Translation Technology (CRITT). As department chair, I am pleased to provide my full support for the establishment of CRITT at KSU. I anticipate that the establishment of this interdisciplinary center will create many new collaborative research opportunities between CRITT and faculty and graduate students in the Department of Psychological Sciences, and I will certainly encourage and support the participation of our faculty and students in these collaborative ventures. Given that CRITT has a separate and independent budget, I foresee no negative budgetary implications for the Department of Psychological Sciences.

**Department of Psychological Sciences**  
P.O. Box 5190 • Kent, Ohio 44242-0001  
330-672-2166 • Fax: 330-672-3786 • <http://www.kent.edu>

CAS-CRITT  
7





September 16, 2019

David. W. Odell-Scott, PhD  
Associate Dean, College of Arts & Sciences  
Director, Center for Comparative & Integrative Programs

Re: Center for Research and Innovation in Translation and Translation Technology (CRITT)

Dear Dean Odell-Scott,

This email is to confirm that the proposed center proposed by Prof. Michael Carl does not duplicate or encroach upon any program or curriculum in our department, rather will complement the growth of a classic sub-area of Computer Science - Natural Language Processing (NLP), combining it with KSU's strength in Translation. This is an exciting development with potential for many breakthroughs. We will support when appropriate the participation of our faculty and students in opportunities to engage in the collaborative grant and other research activities of the Center. We do not see any budget implications to our department.

Kind regards,

A handwritten signature in black ink that reads "Javed I. Khan".

Javed I. Khan, PhD  
Professor and Chair

Department of Computer Science  
P.O. Box 5190 • Kent, Ohio 44242-0001  
Phone: (330) 672-9980 • <http://www.cs.kent.edu/>

CAS-CRITT  
8



September 17, 2019

Dear Associate Dean Odell-Scott,

I am writing to express the strong support of the Department of Modern and Classical Language Studies (MCLS) for the establishment of the Center for Research and Innovation in Translation and Translation Technology (CRITT) as an official Center at Kent State University.

The proposed center does not encroach upon or duplicate any MCLS programs or curricula and will help us to build upon the department's strengths in empirical translation process research. I foresee no negative budgetary impact on MCLS from the establishment of the proposed center, and I will be very happy to support the participation of MCLS faculty and students in CRITT activities to further CRITT's research mission.

Best regards,

A handwritten signature in black ink, appearing to read "K. Dunne", with a long, sweeping underline that extends to the right.

Keiran J. Dunne  
Professor and Chair

CAS-CRITT  
9