

University Council Athens, Georgia 30602

August 19, 2016

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Graduate Student Representative – Ms. Ashley E. Fallaize

Dear Colleagues:

The attached proposal for a new Georgia Informatics Institutes for Research and Education will be an agenda item for the August 26, 2016, Full University Curriculum Committee meeting.

Sincerely,

William K. Vencill, Chair

Welliam K. Vennie

University Curriculum Committee

cc:

Provost Pamela S. Whitten

Dr. Rahul Shrivastav

Georgia Informatics Institutes for Research and Education

1 Vision

The College of Engineering proposes to create and steward the operation of the Georgia Informatics Institutes for Research and Education—also referred to as the Georgia Informatics Institutes, or GII—to meet the demand for information-based research, education, and outreach at the University of Georgia. Informatics—the body of knowledge for computational information collection, generation, storage, processing, and communication—is becoming vital to all disciplines. Educating our students on topics such as data analytics, visualization, and data security is rapidly becoming necessary as informatics becomes pervasive in all fields of study and economic sectors. Numerous examinations of workforce needs highlight the importance of informatics education on the competitiveness of graduates across a diverse set of majors, and it is clear that having a firm understanding of critical informatics-related topics will make them better global citizens and give them a competitive advantage as they enter the workforce or pursue advanced studies.

The progression of sensing, communication, and computational technology has created a vast, rich, and exponentially growing sea of data and a massive increase in new information

creation from its analysis. Almost all manmade objects today contain some form of data collection capability. This "Internet of Things" extends from the mundane, such as wearable activity monitors, to products that we use every day, such as cars, to integral pieces of our infrastructure, such as our built environment, our transportation network, or our power grid. Sensing and instrumentation of the natural environment is enabling transformative design of this highly instrumented built environment for vastly improved resiliency and sustainability.

The sheer volume of information in the modern world is remaking all aspects of the educational enterprise. The ancient Library of Alexandria, which stood for almost 1000 years, was said to have ~500,000 scrolls that contained the equivalent of 100,000 books, or about 64 GB of data. This is equivalent to the storage capacity of approximately one modern-day smartphone, of which there are almost 1 billion in use today. The graphic on the right illustrates the massive volume of data that is constantly being shared through the growing number of internet channels and social media sites. Many of these methods for communication, e.g., Facebook, Twitter, did not exist ten years ago.

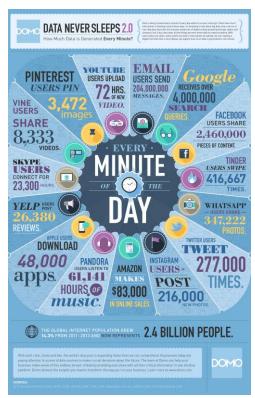


Figure 1. Infographic highlighting the explosive growth of data. http://aci.info/2014/07/12/the-data-explosion-in-2014-minute-by-minute-infographic/

The massive explosion of digital information is accompanied by an exponential reduction in the cost associated with storing and processing this information. The cost of storing information has dropped a million fold over the past three decades as the price of digital memory has dropped due to improvements in the manufacturing of high-density memory. The often-quoted "Moore's Law" has led to an exponential decline in the cost of computer processing, enabling the ubiquitous integration of high-performance computational power into small devices. Finally, the way in which we communicate and transmit information has undergone a total revolution in the past 30 years. One study estimates that in the mid-1980s about 80% of our communication was still analog, while today about 97% of our communication is digital, with a growing percentage of that communication occurring on mobile devices over cellular networks.

All of the above has led to opportunities recognized in specific fields, such as biology, physics, geography, and healthcare, yielding specialized informatics efforts and programs. Now the proliferation and success of disciplinary informatics has nearly all fields of study working towards the same. A new academic and research unit is necessary to capitalize on substantial overlaps between fields in meeting the demands of informatics research and education at UGA.

The informatics revolution is presenting serious questions about how a research-intensive university such as UGA should respond to the rapidly changing landscape. We might ask how should we educate most effectively when our students have never known a world without Facebook, Twitter, and Snapchat. How does our research, educational, and service enterprise adapt to the explosion of information and the ability to use vast quantities of information in real time? What do the terms privacy and security mean in the modern world, and how does policy interface with technology to ensure the proper balance?

The GII will address these questions by creating and fostering the growth of an interdisciplinary informatics research and education environment that fulfills the research, teaching, and service missions of the university. It will support a cadre of faculty from across campus that will significantly expand scholarly activities in informatics by successfully competing for external research funding and the publication of high-impact articles. Instructional needs will be met by the creation of an 'informatics core curriculum' that will enable the creation of discipline-specific informatics programs in a diverse set of schools and colleges. And finally, it will enable experiential learning and service opportunities through the creation of an *Informatics Across the Curriculum* (IAC) initiative that will facilitate the infusion of informatics-related topics throughout the university.

2 Institute Planning and Motivation

Preliminary planning and recommendations for the operation of the GII were provided by an interdisciplinary committee that met in the fall 2015 semester. This committee was charged by the provost to make recommendations to the deans of the College of Engineering and the Franklin College on the structure of educational, research, and outreach activities in Informatics at UGA. The executive summary of the report of the committee, along with a listing of its membership, is included as Appendix A to this proposal.

The key recommendations of the committee were to:

- **Instruction**: create foundational courses in informatics upon which undergraduate and graduate programs (e.g., certificates, minors) could be built.
- **Outreach**: create the IAC initiative that would provide faculty opportunities for increasing and enhancing the informatics-related content of their courses.
- **Research**: offer new hires under the presidential informatics hiring initiative an opportunity to affiliate with the new institute, and hire new faculty with joint appointments in the GII.

These recommendations represent the core activities of the proposed institute and will be initiated in phases as funding is obtained. Some are already partially underway (e.g., the creation of foundational courses).

2.1 Institute Mission

The mission of the GII is to infuse the theory and application of information science and engineering across the university curriculum through collaborative educational programs, significantly enhance informatics scholarship through fostering interdisciplinary research activities, and create new experiential learning opportunities through innovative informatics-based service learning programs.

2.2 Operating Procedures and Policies

The operation of the GII will initially focus on:

- The initiation and administration of undergraduate courses and certificates in informatics at both the undergraduate and graduate levels, enabling all UGA students to gain knowledge and skills in informatics, increasing their attractiveness to prospective employers and graduate programs.
- Highlighting and supporting informatics research and education at UGA, providing advertisement of programs, research, and capabilities through its website, listserv, and activities.
- The initiation and administration of the IAC initiative. The goal of this initiative will be to infuse informatics-related content in courses across multiple disciplines and enhance courses that already incorporate significant informatics content.

Details regarding the operating policies and procedures for each of these activities are described below.

2.2.1 Administration of Certificates and Minors.

The primary academic responsibility of the GII will be to deliver courses with the INFO course designation (pending designation approval). These courses will be referred to as the "Informatics Core," and will be used by participating programs as a basis for undergraduate certificate and minor programs in informatics.

The first of these courses will be Informatics 1 (INFO 2000). This course is currently being offered for the first time in fall 2016 as ENGR 4900 (Special Topics in Engineering), but does

not have any prerequisites or required majors and addresses the same learning objectives as Informatics 1.

As a means to demonstrate how the informatics Core may be used to build a certificate or minor, a subcommittee of Engineering faculty developed the framework for an Engineering Informatics minor. Delivery of the Engineering Informatics program will require the GII to offer INFO 2000, as well as the development of a follow-up, discipline-specific Engineering Informatics course (CSEE 2040). This course is also being offered prospectively as a special topics course in fall 2016. Following the core sequence (INFO 2000 -> CSEE 2040), students will take three additional courses from among those on the approved list.

The Informatics Planning Committee also recommended general certificate programs in Informatics at both the undergraduate and graduate levels. The GII will build upon these recommendations and submit proposals for approval to the University Curriculum Committee.

The recommended undergraduate certificate (schematic in Figure 2) was designed to gradually students to informatics through foundational core, requiring the exploration of two specialties, and then allowing students to explore one or more topics deeply through electives. This contrasts with the Engineering Informatics minor, in that students earning the general certificate would not be required to take any course within their major, allowing more flexibility and potential creativity in interdisciplinary exploration of informatics topics. The

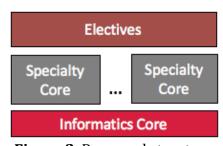


Figure 2. Proposed structure of the Institute's Certificate in Informatics.

curriculum committee of the GII will be responsible for maintaining guidelines for approval as a specialty core course (a limited set of foundational discipline-specific courses such as Engineering Informatics or Bioinformatics), or an elective.

The recommended graduate certificate in Informatics (schematic in Figure 3) models the undergraduate one (Core -> Specialty Core -> Electives), but with an emphasis on research. This includes a research colloquium within the Core, where students would be expected to present a proposal for a thesis or capstone project incorporating informatics. The specialty core further emphasizes statistics and programming. Finally, students may count thesis/dissertation hours as electives if devoted to informatics topics. Two meetings were held in summer 2016 with graduate school faculty and leadership that confirmed support for such a model.

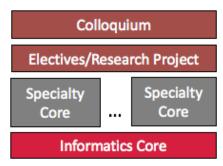


Figure 3. Proposed structure of the Institute's Graduate Certificate in Informatics.

2.2.2 Informatics Across the Curriculum (IAC) Program

Modeled after the UGA's Writing Intensive Program (WIP), The IAC Program addresses the need for greater infusion of informatics content in the curricula of many of our academic disciplines. While this infusion is expected to happen naturally in order to meet the needs of students and industry, the IAC program would catalyze the introduction of informatics content by lowering the technical implementation barriers. In a competitive process administered by the GII curriculum committee, instructors would propose ways to include or improve informatics content their existing courses. Those selected would receive a partial teaching assistantship to support their changes and additions. This assistant will come either from within the discipline, if a student with the appropriate skill-set were available, or from within the GII, as it develops graduate programs in Informatics.

2.2.3 Highlighting and Supporting Informatics Research and Education at UGA

Existing informatics research and education activities at UGA are substantial. A search of faculty with expertise in informatics yielded over 160 faculty members with ties to all areas of informatics research, education, and development. However, with the notable exception of the Institute of Bioinformatics, a clear image of informatics activities at UGA is difficult to form. To change this, the GII aims to be a gateway to learn about informatics research and education at UGA and for faculty and students to connect with each other in shared knowledge and research. Three primary vehicles will be used to achieve this—workshops, collaboration space, and online activities.

The GII will host an annual interdisciplinary informatics workshop. These will involve faculty leaders in informatics research and education at UGA as well as invited talks from internationally renowned experts. The first workshop is scheduled to occur on October 11, 2016. This workshop will also serve to grow the GII community and members, report on its growth plan and slated activities, and build support for future activities.

The GII will also create and maintain several online services that promote its activities and the activities of other informatics institutes and programs at UGA. It will contain information on GII faculty and host information related to the GII academic programs described above. Traffic to the website will be driven by social media activities by GII staff and affiliates. Furthermore, the GII will maintain mailing lists that connect institute members, including a global mailing list for all affiliates as well as discipline-specific mailing lists where technical knowledge can be shared and obtained.

3 Membership and Committees

<u>Faculty</u>

Faculty in the GII will consist of Core Faculty and Affiliate Faculty. Core Faculty will have their tenure home in a participating unit with a percentage of their assigned effort in the institute. Affiliate Faculty are those whose tenure home is in a participating academic unit and whose academic interests align with the mission of the institute.

All University of Georgia faculty are eligible to become Core or Affiliate Faculty in GII. Faculty

can apply to be Core Faculty with approval by their academic unit head. The academic unit sponsoring the faculty member must assign a percentage of their effort (instruction, research, public service) to GII for the purpose of supporting institute activities. Core Faculty nominations must be approved by a majority of the current GII Core Faculty and the executive director of the GII. Initial core faculty membership approval will be made by a cohort of "founding" affiliate members included in this proposal until a minimum of three core faculty members are appointed. Faculty can apply to be Affiliate Faculty with approval by their academic unit head. Affiliate Faculty nominations must be approved by a majority of the current GII Core Faculty and the executive director. A list of faculty who have been involved with the institute planning processes and are expected to affiliate and serve on the steering committee are included at the end of this report, as well as those who might affiliate based on their research and instruction background.

The proposed organizational framework of GII is shown in Figures 4 and 5. As described later, this framework and the committees described below will be constituted as the institute grows its programs and activities.

<u>Internal Advisory/Steering Committee</u>

This body will work with the executive director and advise regarding institute plans and operations. Up to five representatives of the Core Faculty or Affiliate Faculty from college- or school-level units participating in the institute will populate this committee.

Curriculum Committee

Curricular governance will be the responsibility of the GII Curriculum Committee. The GII Curriculum Committee will oversee and approve any changes to INFO-prefix courses and will also work with the participating academic units to coordinate and approve all undergraduate and graduate certificates and minors that build off the informatics foundation. GII Core and Affiliate Faculty are eligible to participate on the GII Curriculum Committee.

Administrative Committees

Two administrative committees will be maintained to coordinate GII-related programs. The Experiential Learning Committee will coordinate and oversee the IAC Program, and the Research and Outreach Committee will identify and coordinate GII-related research and outreach activities. GII Core and Affiliate Faculty are eligible to participate in the GII Administrative Committees.

Technical Advisory Board

This board will be populated by external experts across the areas of GII's mission and will be drawn upon by the GII's executive director to provide input on strategic directions and assessment of outcomes. Representation will span the topical areas of the GII institutes, centers, and other major research and education thrusts.

4 Institute Structure and Reporting

The GII will be a hub for informatics-related activities at UGA. It is intended to connect and support, rather than direct and oversee any existing institute. For example, by offering an interdisciplinary certificate program that involves multiple units with the university, the GII can engage with students from a wider variety of backgrounds, provide foundational informatics knowledge and skills, and connect students to deeper education and research opportunities within specific disciplines.

The home unit of the GII will be the College of Engineering, which is acting as a steward, providing support for the initial growth stages of the institute. However, the GII will be fundamentally cross-cutting, engaging with students and faculty from anywhere within the University. The initial GII review will be done in year three. Subsequent reviews thereafter will be conducted every three years. Reviews will be conducted by the College of Engineering as the GII's administrative unit. These reviews will be done in coordination with other key units involved in the institute. Reviews will include an evaluation of the following broad questions:

- Has the institute become a catalyst for interdisciplinary research and curriculum development in informatics?
- Is the institute successfully cultivating informatics expertise and collaboration within the university and growing in regional, national and international reputation?
- Has the institute become self-sustaining?
- Has the institute met its original milestones or adaptively moved to seize opportunities to establish and achieve new milestones?

This evaluation will include an assessment of key outcome measures, including:

- Approval and initiation of undergraduate and graduate core courses
- Approval and initiation of the Certificates in Informatics
- Approval and initiation of the IAC program
- Number of students enrolled in academic programs and core courses and diversity of degree programs represented
- Number of workshop attendees and diversity of units represented
- Number of courses created or modified as part of the IAC program and diversity of academic programs affected.
- Number of faculty with appointments in the institute
- Number of faculty affiliated with the institutes
- Number of interdisciplinary projects initiated through workshops and partnerships between affiliated faculty
- Number of grant and contract proposals submitted and awarded
- Indicators of scholarly activity, such as number of refereed articles published, invited presentations, software, data sets, and other artifacts.
- Amount of external funding received

The name "Georgia Informatics Institutes" advertises to the public that there are several existing informatics institutes at UGA. Indeed, a goal of the GII is to help foster the creation of more of these efforts. However, the GII will not govern them or require direct reporting as shown in Figure 4. The relationship of the GII to established organizations on campus, including the Institute for Bioinformatics (IOB) and the Digital Humanities

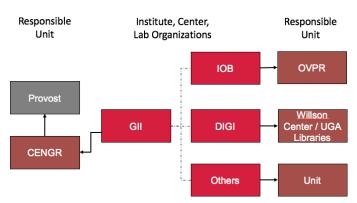


Figure 4. Institute Relationships and Reporting

Initiative (Digi), is one of close cooperation, coordination, and facilitation of their mission under the general mission of the GII to advance UGA informatics. The use of the plural form "institutes" avoids public confusion that the University has simultaneous, overlapping efforts in the same area, when in fact the GII has a complementary and supporting relationship with existing informatics units.

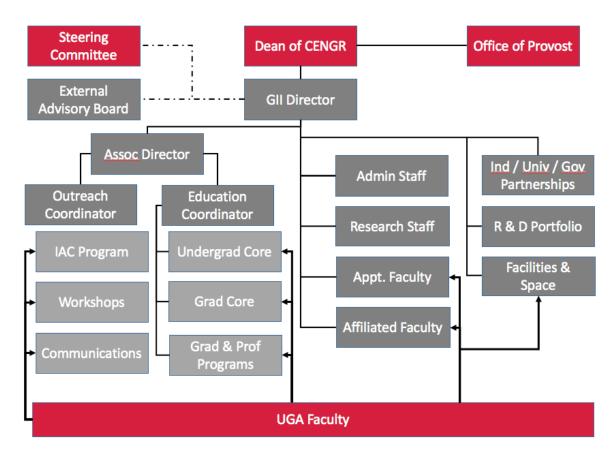


Figure 5. Proposed organizational structure for the GII. Arrows indicate opportunities for UGA Faculty to engage with the GII. The director may choose to appoint an associate director (dashed outline), to assist with the management of various offerings.

A more detailed structure for the GII is found in Figure 5, as recommended by the GII Planning Committee. Although much of this structure will not be in place initially, the expectation is for the GII to grow into a comprehensive unit, with a substantial research and education portfolio. UGA Faculty will have many research, instruction, and service opportunities within this structure, as appointed or affiliate faculty, instructors for core offerings, and the workshops and communications activities orchestrated by the GII.

5 Funding/Budget

The College of Engineering will support the GII in its launch and work with the director as needed to expand that support as programs grow. The initial budget for the institute will include funds and release time that the director may choose to use for partial instruction and/or research time release and summer salary support for leadership of the GII. The director will report to the dean of the College of Engineering. The director is the external face of the institute and works effectively with external advisory groups. She/he is responsible for the strategic direction of the institute and works with the institute faculty to chart its research and education priorities. The inaugural executive director has been identified as Dr. Kyle Johnsen, Associate Professor in the College of Engineering. While Dr. Johnsen has agreed to serve in this position for a period of up to three years, as recommended by the Planning Committee, the institute will undertake a search and hire a director as soon as a position can be made available. Recruitment of a GII director through a national search is critical to the visibility of the new GII and its linkage to the national network in this area.

Two part-time staff functions will be required at the onset of the institute to manage the outreach and instructional activities of the institute. The outreach coordinator, an administrative staff position, will assist the director with primarily faculty and public facing activities of the institute, including the IAC program (managing the proposal process, scheduling meetings), organizing workshops for the institute (event planning, temporary staff coordination), and communications (updating the website, managing the mailing list). The education coordinator, an academic staff position, will assist the director in managing the academic offerings of the institute, including the graduate and undergraduate certificate programs. This includes answering questions about the certificate programs, promoting these programs around campus, coordinating curriculum meetings, and scheduling courses.

The IAC program will be established once seed funding and resources can be obtained. Future funding for the GII's portion will be dependent on the success of the program as determined by the institute review process, and is expected to partially come from income generated by the institute (Informatics Core courses, future professional programs).

The inaugural institute workshop will be funded by the College of Engineering, but open to participation by faculty and students in all units. We anticipate the scope of these workshops scaling with their value in producing new collaborations and partnerships resulting in extramural grants.

Core faculty who have a percentage of their appointment in the institute will allocate collected facilities and administrative (F&A) in the same percentage to the GII. Affiliate faculty may voluntarily contribute indirects returned to their unit to GII on grants with

strong informatics components that result from GII activity. Returned indirects from both sources will be used to support center activities.

5.1 GII Space

Space in which faculty members from different disciplines can interact, work, and co-locate as discovery dictates is important to building an informatics research community. This was highlighted as a needed catalyst for institute growth and impact by the GII planning committee. Initially, space for the center will be provided by the College of Engineering and that of GII's participating faculty. Space in Boyd is in planning for assignment to the institute to provide this interaction and co-location opportunity for existing faculty as well as new hires that may be affiliated with the GII. Availability of this space is projected in 18 months.

6 Participation and Affected Units

The degree to which a unit is affected by the GII will be determined by measures such as the number of students within contained degree programs that enroll in GII courses and certificates, extent of participation of constituent faculty (e.g., instructors of core courses, partial appointment, service on committees), and participation in the IAC program. Letters of support for the GII are attached from the following units, each of which describe their level of support and interest in the institute in their respective letters.

- College of Engineering
- Franklin College of Arts and Sciences
- College of Agricultural and Environmental Sciences
- Terry College of Business
- College of Education
- College of Family and Consumer Sciences
- School of Social Work
- School of Public and International Affairs
- College of Environment and Design
- Grady College of Journalism and Mass Communication
- Graduate School
- UGA-GRU Medical Partnership
- Institute of Bioinformatics
- Willson Center for the Humanities
- Carl Vinson Institute of Government
- Institute of Higher Education
- William A. and Barbara R. Owens Institute for Behavioral Research

Founding members (those offered immediate core or affiliate membership with the institute) are expected to be:

- Kyle Johnsen (Inaugural Director), Associate Professor, College of Engineering
- Lawrence Hornak, Professor and Associate Dean for Research, College of Engineering

- David Stooksbury, Associate Professor, College of Engineering
- Richard Watson, Professor, Department of Management Information Systems
- Deepak Mishra, Associate Professor, Department of Geography
- Bill Kretzschmar, Professor, Department of English
- Jonathan Arnold, Professor, Department of Genetics, Institute of Bioinformatics
- Thiab Taha, Professor and Department Head, Department of Computer Science
- Jessica Kissinger, Professor, Department of Genetics, Director of the Institute of Bioinformatics
- Dawn Robinson, Professor, Department of Sociology
- Lakshmish Ramaswamy, Associate Professor, Department of Computer Science

As well as those recently hired under the Presidential Informatics Hiring Initiative:

- Jason Anastasopoulos, Assistant Professor, Department of Political Science and Public Administration
- Steven Bellan, Assistant Professor, Department of Epidemiology and Biostatistics
- Alexander Bucksh, Assistant Professor, Department of Plant Biology, Institute of Bioinformatics, Warnell School of Forestry and Natural Resources
- Dale Green, Associate Professor, Department of Health Policy and Management
- Jaewoo Lee, Assistant Professor, Department of Computer Science
- Zhong-Ru Xie, Assistant Professor, College of Engineering
- WenZhan Song, Professor, College of Engineering
- Steven Wheeler, Professor, Department of Chemistry



College of Engineering

August 11, 2016

Dr. Kyle Johnsen GII Development Initiative Lead Associate Professor, Engineering Driftmier Engineering Center University of Georgia CAMPUS

Dear Dr. Johnsen,

It is my distinct pleasure to provide this letter of support from the College of Engineering for the proposed Georgia Informatics Institutes (GII) for Research and Education. Your efforts, those of the Informatics Curriculum Development Group you led this past spring semester, and the GII Planning Committee you were a member of the previous fall have established a framework and roadmap for the GII that will result in campus-wide impact. For the reasons and in the ways outlined in this letter of support, the College of Engineering enthusiastically commits to its role as administrative home of the GII and looks forward to helping to shepherd the institute's growth and serve as effective steward in cooperation with other colleges and schools for the crosscutting programs GII develops.

The mission of the institute to advance new interdisciplinary informatics research, instruction and outreach activities throughout the University of Georgia is strongly consistent with that of the UGA College of Engineering and other colleges and schools, reflecting the critical need to glean actionable information from vast amounts of data to address global challenges. Engineering has a special responsibility both as the source of the technology generating this data and as the designer of systems that improve our lives through the resulting information's effective, safe and ethical use. Our College views informatics and the use of data analytics to build new knowledge from diverse sets of data to be an enabling technology for achieving the next generation of engineering breakthroughs.

Consistent with this, CENGR has made two tenure track hires, one at the senior level and one at the assistant level as part of the Informatics initiative. We have also made a major commitment to course delivery in informatics with the offering of a new Engineering Informatics class this past spring and the first offering of the Informatics I class open to all UGA students this fall that serves as the gateway to the planned informatics certificate and its disciplinary tracks developing across campus. Our efforts in informatics, in combination with the many disciplinary efforts occurring across campus offers an opportunity for GII to serve a university wide integrating role that is presently missing at UGA. In this role, GII can develop the needed interdisciplinary foundation of programs to facilitate broad-based informatics research and education at UGA.

The College of Engineering will strongly support the GII in its role as GII's home administrative unit. The College will provide the necessary faculty time and staff support for Dr. Johnsen to undertake the responsibilities of leading the institute. CENGR will provide the initial support and work with the Provost's office and other units on campus to maintain and grow this support for the programs of the GII that are central to achieving its mission, including the annual workshop, targeted research collaboration activities, both the graduate and undergraduate certificates programs and an *Informatics Across the*

Curriculum program. The College will provide existing space for operation of GII and continue to work with GII and the university to finalize new assignment of space for the institute consistent with the GII Planning Committee's recommendations.

I look forward to the establishment of GII as a formal UGA Institute. The College is committed to working with you and your team for the benefit of the College and campus as you shape GII into a nationally recognized informatics institute.

Sincerely,

Donald J. Leo, Ph.D.

Dean

UGA Foundation Professor in Engineering



College of Environment and Design

12 August 2016

Dr. Kyle Johnsen, Associate Professor College of Engineering University of Georgia 503 Driftmier Athens, GA 30601

Dear Dr. Johnsen:

The College of Environment and Design (CED) and its faculty fully support the new Georgia Informatics Institute proposal. Several CED faculty have been involved with this initiative as it has evolved to this point and will continue their involvement as the institute is fully sanctioned and developed. Professor Brian Orland, the Rado Family Professor of Geodesign, and GIS experts Dr. Rosanna Rivero and Professor Alison Smith are particularly interested in how informatics can enhance planning and design in real landscapes and urban environments. Dr. Jon Calabria, a water expert, hopes to engage the institute from his area of expertise.

I pledge our full involvement in the institute including an official college affiliation, the direct participation of faculty in workshops, and our interest in adding a course (or courses) to emerging degree or certificate opportunities. I am also confident that many of our students, particularly at the graduate level, will be interested in an informatics certificate.

Sincerely,

Dan Nadenicek, Dean and

Draper Chair in Landscape Architecture



College of Agricultural and Environmental Sciences
Office of the Dean and Director

August 10, 2016

Dr. Kyle Johnsen, PhD Associate Professor College of Engineering The University of Georgia

Dr. Johnsen:

Thank you for providing us with the Interdisciplinary Informatics Institute proposal. The College of Agricultural and Environmental Sciences is happy to support this initiative. I anticipate that a number of our faculty would want to affiliate with the Institute. In addition, I am confident that our faculty would be interested in attending the informatics workshops you have proposed.

The college's principle involvement will likely be through the Institute of Bioinformatics, a participant in the Georgia Informatics Institute. Other activities such as computational efforts associated with our breeding and genetics programs, and image processing could potentially benefit from the Institute's initiatives. The proposed graduate minor in informatics may be of interest to some of our students.

CAES faculty and administration would encourage the Institute's governance to expand beyond a solely CENGR centered model. Perhaps one that could include a contribution from the OVPR. Similarly, the relationship to the Institute for Bioinformatics could be spelled out more explicitly.

I trust that the Institute will enable greater interdisciplinarity and collaboration. Again thank you for the opportunity to review the proposal.

Best Regards,

S. L. Pardue

Som & Paroline



College of Education
Office of the Dean

12 August 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administrative Building
University of Georgia
CAMPUS

Dear Provost Whitten:

I am pleased to write this letter of support for the proposed Georgia Informatics Institutes for Research and Education. The College of Education relies on data to shape research, teaching, and outreach for the next generation. Increasingly informatics are being used in education to more effectively assess student learning outcomes and individually customize curriculum accordingly. Informatics are not only relevant in the classroom, but also impact learning and development activities in workplaces, laboratories, and clinical settings.

The College of Education launched its newest research center devoted to the study of autism and behavioral analysis which pools resources from existing clinics in the College to provide autism related assessments and evaluations for area children. This new venture provides but one example where informatics are relevant in the COE and the opportunities collaborative research are rich. When you are conducting research that affects someone personally, you know you are changing lives for the better. We have other centers, including the Georgia Center for Assessment, which uses large data sets to continue their research, growth, and sharing of information in Georgia and nationwide.

The College of Education is pleased to support the Georgia Informatics Institutes by attending informatics workshops, infusing informatics in our curriculum, and exploring future ways to collaborate in this important, growing area.

Sincerely,

Craig H. Kennedy, PhD Dean and Professor



Carl Vinson Institute of Government

To: University Curriculum Committee

From: Laura Meadows, Director

Date: August 12, 2016

Re: Georgia Informatics Institutes

The Carl Vinson Institute of Government is in support of the proposal from the College of Engineering to create the Georgia Informatics Institutes (GII) for Research and Education to meet the demand for information-based research, education, and outreach at the University of Georgia. We believe the creation of this institute is timely and very much needed in our state.

As a public service and outreach unit, we are charged with promoting excellence in government by helping government officials, both elected and appointed, acquire the skills and abilities they need to do their jobs and by providing them tools for more informed decision making. In short, we provide training, applied research, technical assistance, and technology solutions for government officials in Georgia and around the world. While our clients are mostly external to UGA, we engage 100 students, both undergraduate and graduate, in hundreds of projects each year.

Increasingly, our projects and the solutions we produce for our clients, involve data analytics and visualization, as well as a host of other technology answers. We see a huge need with both our clients and our faculty and staff to be on the cutting edge of this field for more informed decision making and in creating technology innovations for government problems and opportunities. I envision some of our public service faculty and staff either seeking to affiliate with GII or working in partnership on numerous research projects. Furthermore, the work that we do will provide experiential learning opportunities for students to address real-time, real-world projects that involve data analytics and visualization and a host of other technology innovations.

In summary, the Carl Vinson Institute of Government is fully supportive of the GII proposal. If you have any questions, please do not hesitate to let me know.



Institute of Bioinformatics

August 12, 2016

Kyle Johnson, Ph.D. Associate Professor Director Georgia Institutes of Informatics

Re: Institute of Bioinformatics Support for GII

Dear Director Johnson,

As Director of the Institute of Bioinformatics (IOB), I am writing to express our support for the establishment of the Georgia Institutes of Informatics Research and Education (GII). I was a member of the planning committee and the IOB Graduate Coordinator, Jonathan Arnold was a member of the curriculum committee that designed the first undergraduate course (INFO2000 –once approved) to be offered. The IOB was also a recipient of a Presidential Informatics faculty hire, Assistant Professor Alexander Bucksch, who has joint appointments in Plant Biology, Warnell and the IOB.

The IOB brings several strengths to the GII initiative, namely:

- A thriving Graduate Program in Bioinformatics that offers a Ph.D degree and two M.S. degrees (one with and one without, a dissertation)
- An existing Graduate certificate in Bioinformatics
- An existing Graduate course in Data Management, GRSC8015 that is taken by most incoming life-sciences graduate students
- An existing split-level course 4005/6005 "Essential Computing Skills for Biologists"
- An established faculty, 10 with EFT appointments, 30 with adjunct appointments
- An established seminar series and bi-annual symposium
- An established presence, including social media

Partly in response to the GII and partly for our benefit, the IOB agrees to lead an effort to catalog all UGA bioinformatics course offerings at the undergraduate and graduate level and initiate a discussion, across campus including the GII, to see if there is a way in which each unit can contribute their effort in a way that both facilitates a more structured program of introductory and specialized courses and that meets the needs of the units that initially created the courses. Such a reorganization, if achieved, would permit the creation of an undergraduate specialization in bioinformatics via the GII. The IOB does not currently offer an undergraduate major or undergraduate certificate.

The IOB agrees to together with other units across campus to help serve in the mentioned administrative committee roles until the GII can function more independently. We cannot at this time agree to share directly in the financial support of the GII as our own support is still quite uncertain. However, we do remain open to future discussions of

funding possibilities for cross-college interdisciplinary endeavors including the IOB and GII among others.

Sincerely,

Jessica C. Kissinger, Ph.D.

Director, Institute of Bioinformatics

Jessua Kissinger

Cc: David Lee, VP for Research

Alan Dorsey, Dean, Franklin College



Graduate School

August 8, 2016

Dr. Kyle Johnsen Driftmier Engineering Center, Room 503 University of Georgia Athens, Georgia 30603

Dr. Johnsen:

The Graduate School is pleased to provide our strong support for the creation of the *Georgia Informatics Institutes for Research and Education*. As you know, we are keenly interested in seeing the GII's graduate offerings grow quickly, and we are committed to assisting you in that effort. New graduate level courses, certificates, and degree programs in informatics and data science will provide graduate students across the university with critical skills and will help us attract new students of the highest caliber.

We appreciate your exemplary efforts in launching the GII and stand ready to support you.

Sincerely,

Suzanne E. Barbour

Dean



Nicholas Allen Director, Franklin Professor of English

Willson Center for Humanities and Arts

1260 Lumpkin Street Athens, Georgia 30602-1552 Telephone 706-542-3966 Fax 706-542-2828 na@uga.edu

August 10, 2016

Kyle Johnsen, PhD Associate Professor College of Engineering

Dear Professor Johnsen,

The Willson Center is happy to support the Georgia Informatics Institutes for Research and Education. As with the Digital Humanities Initiate (DIGI), the Willson Center is a strong supporter of increasing student access to multiple disciplines through courses and certificate programs that increase students' knowledge and skills in preparing them for prospective employers and graduate programs.

The Willson Center will cross promote informatics programs and opportunities, including the annual interdisciplinary informatics workshop, through our regular publicity as well as through the DigiLab. Professor William Kretschmar, who serves as one of your founding members, is also central to the efforts of DIGI as director of the Willson Center Research Cluster on Complex Systems.

The Willson Center also supports the cross disciplinary conversations on information-based research through one of our Research Seminar grants, "Complex Systems at UGA," a multidisciplinary seminar led by Professor Kretschmar.

We are strong supporters of the Informatics Initiatives and will actively encourage the participation of faculty and students.

Best regards,

Nicholas Allen

Director of the Willson Center for Humanities and Arts

Franklin Professor of English

c: Professor William Kretzschmar



Franklin College of Arts & Sciences Office of the Dean

12 August 2016

Dr. Kyle Johnsen GII Development Initiative Lead Associate Professor, Engineering Driftmier Engineering Center University of Georgia CAMPUS

Dear Dr. Johnsen,

I am very pleased to provide this letter of support for the proposed Georgia Informatics Institutes (GII) for Research and Education. The Franklin College of Arts and Science has a large portfolio of informatics research and instructional offerings, with strong programs in Computer Science, Statistics, and Mathematics that lay the foundation for informatics as well as programs advancing their state of the art through informatics throughout our other Departments. We have many faculty who use and develop informatics in their research and teaching from the sciences to the humanities and fine arts. We have supported interdisciplinary efforts in informatics, such as the Institute of Bioinformatics, the Digital Humanities Initiative, and the Institute for Artificial Intelligence, as well as through 3 recent faculty hires as part of the President's and Provost's Informatics Initiative.

Franklin College is pleased to support the GII through the affiliation of these hires and our other interested faculty with the GII. The GII provides new opportunities to engage with the broader community of informatics researchers and educators at our University, and we will support their participation in joint research proposals facilitated by GII, engagement of our faculty in GII workshops and other events, working with GII to launch new academic programs, providing courses for the graduate certificate, and encouraging interested Franklin College students to pursue the proposed certificates. We see particular value in working with GII to bring more informatics knowledge and instruction into all aspects of our undergraduate curriculum. We look forward to working with you in this exciting initiative and intend to partner with the planned institute, once established, to help shape its programs and maximize its effectiveness both for our college and the campus as a whole.

Sincerely,

Russell L. Malmberg

Associate Dean, Franklin College

Gunell L. Malnhery

University Professor, Plant Biology Department



School of Public and International Affairs Office of the Dean

August 12, 2016

Proposal: Georgia Informatics Institutes for Research and Education

Dear Provost Whitten and members of the University Curriculum Committee:

I am writing in support of the proposal to establish the Georgia Informatics Institutes for Research and Education (GII). The GII proposal recognizes the rapidly increasing importance of informatics in the education of our students and the research direction of the University's faculty. The School of Public and International Affairs is already fully committed to the GII effort having recently hired a faculty member as part of the informatics hiring initiative. It is indicative of GII's importance that our new faculty member's previous position was at the School of Information at the University of California, Berkeley. He is affiliated with two of our departments—the Department of Public Administration and Policy and the Department of Political Science—and is already engaged with the nascent GII.

In short, the GII not only responds to the educational and research challenges our University faces but the competitive challenge presented by our peer and aspirational institutions. I am confident that the GII will provide the interdisciplinary institutional and intellectual platform needed to meet these challenges.

Sincerely,

Robert Grafstein

Associate Dean and Georgia Athletic

Association Professor of Political Science



OFFICE OF THE CAMPUS DEAN

AU/UGA Medical Partnership UGA Health Sciences Campus 108 Spear Road Athens, Georgia 30602

Tel: 706-713-2183 Fax: 706-713-2222

Medicalpartnership.usg.edu

12 August 2016

Kyle Johnsen, Ph.D. Associate Professor College of Engineering University of Georgia

Re: Proposed establishment of a Georgia Informatics Institute

Dear Dr. Whitten and members of the University Curriculum Committee

We write to support the proposal to establish the Georgia Informatics Institute(s) for Research and Education at the University of Georgia, submitted by Dr. Kyle Johnsen of the College of Engineering. We are aware of the vast volume of digital information that is generated and gathered daily across all disciplines, including healthcare, and the need to educate our emerging workforce in this area.

As described in the proposal, the Georgia Informatics Institute will create and foster the growth of an interdisciplinary informatics research and education environment that will support and expand informatics scholarship across the university, and infuse the theory and application of information science and engineering across the university curriculum.

The Medical Partnership campus employs a highly integrated curriculum that relies on active learning pedagogy that already includes a modest amount of health informatics. The proposed Georgia Informatics Institute could help us develop and refine further the informatics portions of our educational programs and the informatics-related portions of our developing research portfolios. While we may have a few students who would pursue advanced training and certification as suggested in the proposal, we would find it particularly helpful to focus resources and guidance on the design and implementation of a health informatics curriculum that every medical doctor will need to be effective in the 21st century.

In summary, we write to support the formation of this Informatics Institute, to help us better accomplish our educational and research missions.

Cordially yours,

Michelle Nuss, M.D.

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Campus Dean

AU/UGA Medical Partnership

UGA HSC

W. Scott Richardson, M.D.

Campus Associate Dean for Medical Education

AU/UGA Medical Partnership

UGA HSC Campus



Benjamin C. Ayers, Dean Earl Davis Chair in Taxation

Terry College of Business Office of the Dean

335 Brooks Hall Athens, Georgia 30602-6251 Telephone 706-542-8100 Fax 706-542-3835 busdean@uga.edu

MEMORANDUM

TO:

Pamela Whitten

Senior Vice President for Academic Affairs and Provost

FROM:

Benjamin C. Ayers

Terry College of Business Dean

DATE:

August 9, 2016

SUBJECT:

Georgia Informatics Institutes for Research and Education Proposal

I am pleased to provide this letter of support on behalf of the Terry College of Business for the proposed Georgia Informatics Institutes for Research and Education. Informatics touches many areas within the business world. In fact, you would be hard pressed to find a sector of business where it does not play an important role. Students need to be able to understand how to process the vast quantities of digital information that is becoming readily available. The interdisciplinary informatics research and education environment provided by GII will be an important step in fulfilling this need for our students. I have reviewed the proposal and support its contents.

I believe the Terry College can provide support for the activities of the new Institute in several ways. Dr. Rick Watson of our Management Information Systems Department is listed as a founding member in the proposal. The Management Information Systems Department and Informatics are an obvious match. I will be happy to make sure the Informatics workshops are advertised to Terry's faculty, as well as make students aware of the proposed certificates. I do not object to Terry courses being listed as part of this interdisciplinary effort and we will offer seats to students in the certificate program as availability and demand allow, given prerequisites are met.



Grady College of Journalism and Mass Communication

August 9, 2016

Kyle Johnsen, PhD Associate Professor College of Engineering The University of Georgia

To the Committee:

The Grady College of Journalism and Mass Communication fully supports the proposal to establish the Georgia Informatics Institutes for Research and Education. The certificate programs present excellent opportunities for our students and faculty to engage in the increasingly interdisciplinary and rapidly growing scholarship of informatics — an emerging discipline of great interest to many students in Grady College. Offerings within our college, such as Dr. Itai Himelboim's course on Network Analysis, could become part of the Graduate Certificate, and students within our Emerging Media program should be especially interested in the Institute. We also see potential overlap with the college's interdisciplinary New Media Institute.

We look forward to seeing many of our faculty participating in the upcoming October workshop and beyond, becoming affiliate faculty and engaging with the institute in various ways such as the proposed Informatics Across the Curriculum Program.

This is an exciting new venture. Grady College is delighted to support it and I hope we can find many ways to work together in the coming years.

Sincerely,

Charles N. Davis Dean, Grady College

Cc: Dean Donald Leo, College of Engineering



William A. and Barbara R. Owens Institute for Behavioral Research

August 4, 2016

Dr. Kyle Johnsen Associate Professor College of Engineering The University of Georgia

Dear Dr. Johnsen:

The Owens Institute for Behavioral Research (OIBR) strongly endorses the proposal to establish the new Georgia Informatics Institutes for Research and Education. As a service unit under the auspices of the Office for the Vice President for Research, OIBR's mission is to support and encourage transdisciplinary scholarship in the social and behavioral sciences, broadly defined. Informatics in general, and computational science in particular, are important and emerging areas in many of the academic disciplines served by OIBR (e.g., Psychology, Sociology, Geography, Human Development and Family Science). Importantly, we have OIBR-affiliated faculty in these departments who would certainly benefit from the proposed institute.

I expect there to be particular synergy between the proposed Georgia Informatics Institutes and the Owens Institute of Behavioral Research's proposed Center for Computational Social Science. This center proposal grew out of the Owen's Institutes' Computational Social Science work group that has been codirected by Dr. Dawn T. Robinson, who was also on the GII planning committee and is a founding member of the proposed Georgia Informatics Institutes. More broadly, the proposed institutes will offer a variety of resources to support information based research and education that I believe will benefit the university community at large as well as the social and behavioral science research activities supported by OIBR.

In closing, I enthusiastically support the proposed Georgia Informatics Institutes for Research and Education and look forward to exciting collaborative opportunities if this proposal is approved.

Sincerely,

Mautal

Director, Owens Institute for Behavioral Research Professor of Psychology



School of Social Work

Office of the Dean

Kyle Johnsen, PhD College of Engineering University of Georgia

Dear Dr. Johnsen,

It is with great pleasure that I write this letter of support on behalf of the School of Social Work for the innovative Georgia Informatics Institutes for Research and Education (GII). The GII will be a tremendous resource for our faculty and students. In conversation with our faculty, a number of them identified ways in which the GII will be a value in their work. Dr. Orion Mowbray noted

"Many publicly funded social service delivery systems are sitting on huge amounts of administrative data - child welfare and mental health to name two. Unfortunately, only a very small portion of this data is ever analyzed, and when it is, it is mainly done to satisfy specific mandates. While this is foreseeable due largely to small budgets, time constraints and a lack of expertise in data analysis many social service systems have, the consequence is a missed opportunity to examine data that has already been collected for ways to truly improve social service delivery. By having an Informatics Institute as a partner in research, we can make better inroads to establishing legitimate partnerships with statewide social service delivery systems to develop data use agreements that are mutually beneficial. In partnership with this new institute, we can better assist in the required reporting many social service systems must do. But with Institute expertise in data management, analysis and visualization of administrative data, we can go beyond required reporting and offer customized, real-time data that can directly inform and improve the delivery of services based on the specific needs of each agency."

Our Director of Research, Dr. Harold Briggs, augmented these comments by pointing out that by developing additional faculty capacity via informatics workshops, the GII can help faculty integrate big data informatics into courses in community practice, nonprofit management, and practice and policy evaluation.

Finally, our Associate Dean Dr. Shari Miller stated that a Certificate in Informatics could be of great interest to some of our doctoral students, and perhaps some of our master's students as well.

Thus you can see that the School of Social Work would be eager to partner with the GII and that we wholeheartedly support its development.

Best of luck in developing this Institute, and don't hesitate to contact me if I or any of my faculty can be of assistance in your efforts.

Sincerely,

Anna Scheyett, MSW, PhD

Anna Schuyett

Dean and Professor



Institute of Higher Education

To: University Curriculum Committee

Re: Georgia Informatics Institute (GII)

College of Engineering

From: Libby V. Morris, Director

Date: August 3, 2016

The Institute of Higher Education is pleased to support the College of Engineering's proposal to establish the Georgia Informatics Institutes (GII) for Research and Education. The proposal identifies an important issue: the need for a comprehensive systems approach to informatics education and research at UGA. GII will provide the structure to encourage faculty to cross disciplinary boundaries for informatics research and education, will enable disciplinary expertise in students with specialized informatics courses for undergraduates and graduate students, and will further enhance UGA's quest to be at the forefront of research and leadership in this burgeoning area among our peers and aspirational institutions.

Policy evaluation and analytic work are core activities of the faculty and students in the Institute of Higher Education. For this reason, we believe that some of our faculty may request to become an affiliate of GII, and we will encourage advanced students to explore the graduate certificate as part of our Ph.D. program. An informatics institute might also assist the Institute of Higher Education with the recruitment of graduate students who wish to do more in-depth study in this area than we could provide.

The establish of a new program and Institute is complex, and I am pleased to see that this proposal addresses not only the goals of the Institute, but also potential challenges including the need for dedicated space, types of affiliation, course and program structure, and budgetary issues, as well as intra-organizational relationships. The fact that distinguished UGA faculty in areas relating to informatics served on the planning committee bodes well for the Institute's future success.

Please let me know if I may provide additional information.



Linda Kirk Fox Dean

College of Family & Consumer Sciences
Office of the Dean

224 Dawson Hall Athens, Georgia 30602-2622 Telephone 706-542-4879 Fax 706-542-4862 lkfox@uga.edu www.fcs.uga.edu

August 2, 2016

Dr. Pamela Whitten
Senior Vice President for Academic Affairs and Provost
Administrative Building
University of Georgia
CAMPUS

Dear Provost Whitten,

I am pleased to provide this letter of support for the proposed Georgia Informatics Institutes for Research and Education. The College of Family and Consumer Sciences is committed to advancing the well-being of individuals and families over the lifespan and strengthening communities through the generations. The Georgia Informatics Institutes will help prepare students in existing degree programs in FACS (housing and policy management, consumer economics, financial planning, fashion merchandising, healthy and food systems, and human development and family science) to better understand data analytics and visualization of vast quantities of information.

Many of the faculty in the college are already using large data sets for research and providing students with the opportunity to engage in this research. The vision of the GII will foster the continued growth of interdisciplinary informatics research to expand scholarly activities in informatics, seek external funding, and publish research in high-impact journals.

The College of Family and Consumer Sciences is pleased to support the Georgia Informatics Institutes by affiliating faculty with the new institute, faculty attending informatics workshops, providing courses at the undergraduate and graduate level that support the Undergraduate and Graduate certificates, and encouraging interested FACS students in pursuing the proposed undergraduate or graduate certificates. We look forward to conferring the Informatics Certificate to students who successfully complete its requirements.

Sincerely,

Linda Kirk Fox, Ph.D.

Linda Kork Frx

Dean

C: Patti Hunt-Hurst, Associate Dean for Academic Programs

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College of Public Health
Dean's Office

August 29, 2016

Dr. Kyle Johnsen GII Development Initiative Lead Associate Professor, Engineering Driftmier Engineering Center University of Georgia CAMPUS

Dear Dr. Johnsen,

I am pleased to provide this letter of support for the proposed Georgia Informatics Institutes (GII) for Research and Education. The GII proposal offers to establish a coordinating entity for the diverse informatics programs evolving at UGA and predicts that informatics tools and methods will have a pervasive impact on programs across campus. This has certainly been our experience at the College of Public Health (CPH).

In our proposal last year for the President's Informatics Faculty Hiring Initiative, we specified the need to hire faculty at CPH in the area of health informatics, as distinct from bioinformatics and other informatics fields. We explained that: "The College of Public Health is fundamentally affected by the dramatic increase in the amount and complexity of available population health information." This is true in public health programs across the country, and we will need to integrate and strengthen our resources for managing and analyzing health related information. Although the competitive paradigm in our discipline compels us to build an academic structure specifically focused in health and public health informatics, we believe this effort would benefit from an affiliation with the GII, which has been conceived "to connect and support, rather than direct and oversee" other formal programs in specific informatics fields. As its name suggests, the Georgia Informatics Institutes would operate as a collection or alliance of institutes. We believe that one of those institutes will evolve at the CPH in partnership with other UGA programs to deepen health informatics capabilities specifically for the management and analysis of population health data to accomplish public health objectives.

A number of our faculty are currently involved in research projects requiring expertise in the evolving health informatics discipline. Importantly, we have made several hires in recent years that directly contribute to research and education in the field. Our efforts received a significant boost from the President's hiring initiative which resulted in the recruitment of two additional faculty members to the College with clear health informatics expertise—one in healthcare systems and the other in international health program analytics.

The informatics hiring initiative also increased the informatics capability in other programs campus-wide, which positively impacts the CPH in terms of the availability of collaborators from other informatics perspectives. For this reason the CPH supports the creation of the campus-wide Georgia Informatics Institutes (GII) and will participate in its activities to develop new academic programs and new interdisciplinary research collaborations and other activities of the GII to engage informatics faculty across campus.

Sincerely, PMM

Phillip L. Williams, Ph.D.

Dean