



Council on Undergraduate Research

CUR Updates

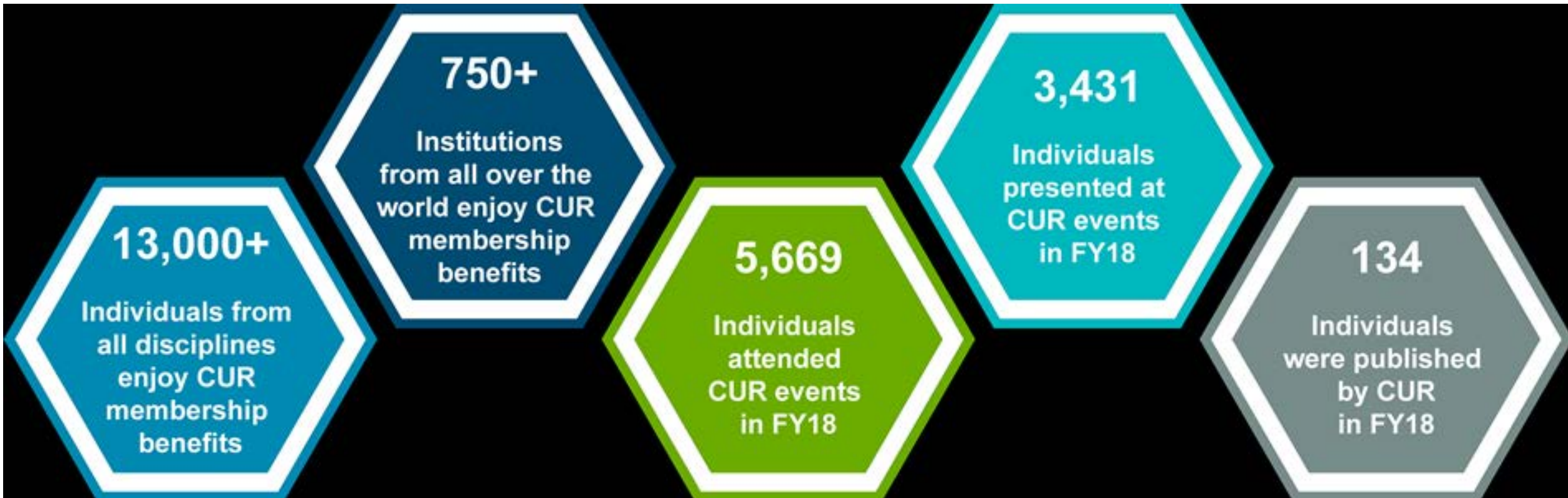
**Elizabeth Ambos, Executive Officer
Council on Undergraduate Research**

September 24, 2018

**INBRE PI/PC Meeting
National Institutes of Health**



Council on Undergraduate Research



Vibrant Community...Broad Impact



CUR's Mission

The mission of the Council on Undergraduate Research is to support and promote high-quality undergraduate student-faculty collaborative research and scholarship.

Individual members can choose to participate in any of CUR's 13 divisions (11 Disciplinary, 2 Multidisciplinary)

Arts & Humanities	At-Large	Biology
Chemistry	Education	Engineering
Geosciences	Health Sciences	Math/Computer Sciences
Physics/Astronomy	Psychology	Social Sciences
Undergraduate Research Program Directors		



CUR Membership: What we Provide

- Variety of programs, services and advocacy
- Network of experts
- Opportunities to showcase your research accomplishments and learn from others
- Connections to the larger issues in higher education
- Discounts on a variety of information resources and professional development opportunities



CUR Resources

Promote and support undergraduate student-faculty research and scholarship

MEETINGS

National Faculty Conferences

REU Symposium

National Conference on Undergraduate Research

Posters on the Hill

CUR Dialogues

Institutes & Workshops

SERVICES

Consulting Services

Mentor Networks – UR registry

Grant Preview Service

CUR Fellows/Goldwater Scholars/AURA Awards

Community platforms (Discussion Forum)

Advocacy

PUBLICATIONS

Scholarship and Practice of Undergraduate Research

“How To” Series COEUR Specialized Volumes



For Students - Top Four

- Posters on the Hill (opening in fall 2018)
- National Conference on Undergraduate Research (opening in fall 2018)
- Registry of Undergraduate Researchers - available year round
- *National Science Foundation Research Experiences for Undergraduates symposium (opening July 2019)*



Posters on the Hill

STUDENT: JIN HEE CHOI
INSTITUTION: MINOT STATE UNIVERSITY, MINOT, NORTH DAKOTA; ADVISOR: MIKHAIL BOBYLEV
AWARDS: Institutional Development Award (IDeA) from the National Institute of General Medical Sciences and the National Institutes of Health under grant number P20GM103442

Minot State UNIVERSITY

Rapid synthesis of N-vanillylacetyamide

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EXPERIMENTAL PROCEDURE
4-hydroxy-2-methylvanillin (1.3281 g or 10 mmol), formic acid (2.5518 g or 50 mmol), and acetic anhydride (14.8770 g or 0.25 mol) were placed into a 50 mL round-bottom flask equipped with a thermometer, a reflux condenser, a magnetic stirrer and a heating mantle. The reaction mixture was heated to 150°C and maintained at 150°C for 8 minutes. Then the heat source was removed and the reaction was allowed to cool to room temperature. The TLC of the reaction mixture showed that the reaction was complete.

The reaction mixture was diluted with 50 mL of water and extracted with a mixture of ethyl acetate (CA, 2:1 v/v (x 20 mL)) and ethyl acetate (18 x 20 mL). The extracts (4, 7, 12, 15-18, 19-24) were collected in four separate beakers. The extracts were dried over sodium sulfate, combined, and evaporated producing 1.3663g, 0.8833g, 0.3883g, 0.216 kg, respectively. The dried extract showed long striated crystals with mixture of oil and the overall weight of dried extract was 2.8571g.

The dried extract was separated via column chromatography (silica gel, ether: methanol 50:1 v/v and acetonitrile). The separation produced 2.2158 g (11.90%) of N-vanillylformamide (9), 2.34°C (from benzene), (L.S. 83.5°C (from benzene)) (D): 123.4°C (from benzene) (C₁₁H₁₃N₂O₃, calculated %: C 59.46; H 6.12; N 7.73; found %: C 59.41; H 6.15; N 7.81; IR 3.4-3.43 (other: methanol 10:1 v/v), R_f 0.33 (acetone/nitro), 0.899g (20.83%) of N-vanillylacetyamide (10), 105.3°C (from benzene), (L.S. 109-109.5°C (from benzene), eform (7), 84.9°C (from benzene)) (C₁₂H₁₅N₂O₃, calculated %: C 61.52; H 6.71; N 7.17; found %: C 61.43; H 6.58; N 6.83; IR 3.44-3.44°C (from benzene), (L.S. 144.5-145.2°C (from benzene), (C₁₂H₁₅N₂O₃, calculated %: C 64.34; H 6.94; N 4.1; found %: C 64.26; H 6.96; N 4.45; IR 3.4-3.46 (other: methanol 10:1 v/v).

The ¹HMR spectra of the products are presented in Figures 1-3. The reaction scheme explaining the formation of the products is presented in Figure 4.

Figure 1. ¹HMR spectrum of N-vanillylformamide.

Figure 2. ¹HMR spectrum of N-vanillylacetyamide.

Figure 3. ¹HMR spectrum of N,N-divanillylformamide.

Figure 4. Reaction scheme and the yields of the products (the yields for the reaction with 2-hydroxyvanillin are given in parentheses).



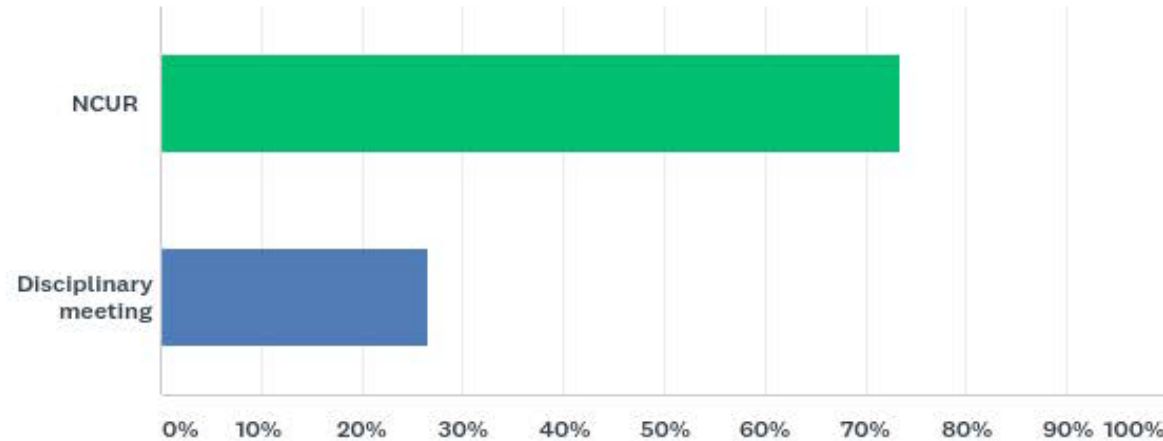
NCUR: A Transformational Event

- NCUR stands for National Conference on Undergraduate Research
- Now entering its 33rd year
- Attracts more than 4000 registrants (about 90% students) each year
- **NCUR 2018 was held at University of Central Oklahoma**
- NCUR 2019 will be held at Kennesaw State University in Georgia
- **NCUR 2020 will be held at Montana State University, Bozeman**
- NCUR 2021 will be held at California State University, Long Beach
- NCUR 2022 in bid process
- *NCUR 2023 and beyond - please contact the CUR office (cur@cur.org or liz@cur.org) if you think your campus might be interested in hosting NCUR*



NCUR 2018 Evaluation: Students Appreciate NCUR

Q27 If a student could only attend either NCUR or a disciplinary meeting, which would you recommend and why?



466 comments! Typical comments: "NCUR is much more friendly" "Because NCUR helps you see that research is truly interdisciplinary, and we can learn a lot from other disciplines" ... "It is much more realistic to see the broad spectrum of topics that students are researching around the country. Plus it gives you more creative ideas for your own discipline."



CUR Undergraduate Student Registry

- Database of student researchers with desire for a graduate degree.
- Any student with research experience, and is free to student to be listed.
- Students with research experience are well prepared for rigorous graduate studies
- Graduate programs, summer research experiences, professional schools, use as recruitment tool on a subscription basis
- http://www.cur.org/projects_and_services/registry/



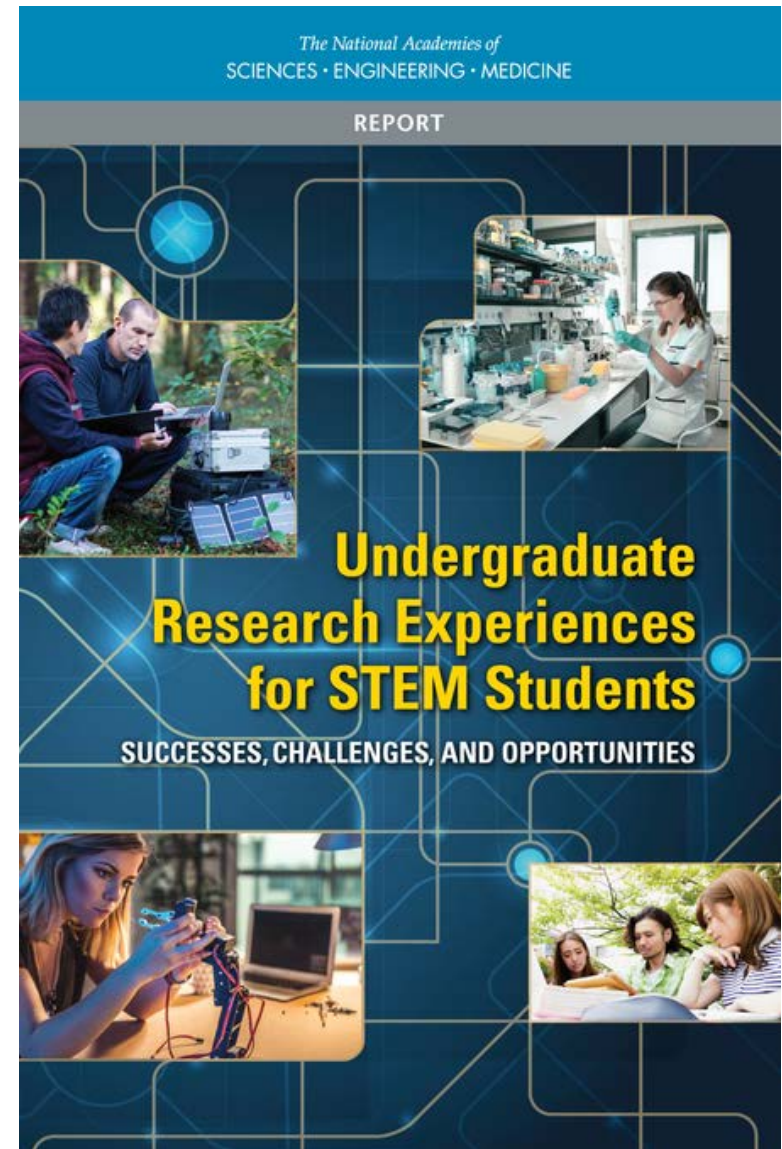
For Faculty and Administrators Seeking Grant Success

- *CUR Dialogues* - For faculty and research administrators looking to increase grant funding and build contacts with federal agency grant officers - will be offered in Crystal City (adjacent to Reagan National Airport) in February 2019
- For more information, please see <https://www.cur.org>



Advocacy and Opportunity

- National Academies of Science studied undergraduate research (UR) over a two-year period
- Confirmed value of UR
- Provided many good case studies of UR in the U.S.
- Called for more research on the impact of UR on student achievement
- CUR representatives involved in testimony and information gathering





CUR Program Review and Consultation Services

- Expert network of consultants available to:
 - Undertake departmental reviews, including undergraduate research offices (often for strategic plan assessment, accreditation)
 - Conduct customized on-campus institutes and consulting on college-wide/institution-wide education transformations



CUR Information Resources: Focus on Assessment of UR

- Assessment Resources: Collection of best practices and peer-reviewed publications, opportunities to participate in longitudinal studies of UR impact
- Assessment webinar series - very important for campuses that are looking to understand the impact of UR investments
- Community platform for members to discuss various UR aspects includes free job/opportunity postings for member institutions
- CUR's peer-reviewed journal - *Scholarship and Practice of Undergraduate Research* focuses heavily on assessment, diversity and inclusion, and integration of research into the curriculum
- NSF-funded WIDER (EvaluateUR) and IUSE grants provide cutting-edge research on how to assess UR impact and department transformation



Assessment Resources

Assessment | Assessment | Cour X

www.cur.org/resources/faculty/assessment/?UserId=0c5379b7-04bf-4e56-a732-1e

Most Visited Getting Started Undergraduate Resear... SSIR Six Theory of Change ... The Virginia Tech Res... IHE Trump's work-study p...

HOME ▶ MEMBER RESOURCES ▶ FACULTY/Administrator RESOURCES ▶ ASSESSMENT

- Member Resources**
- Faculty/Administrator Resources**
- Advocacy
- Assessment**
- Bibliography Catalogs
- Characteristics of Excellence
- Newswise Press Release Service
- Webinar Archive
- CUR Journals
- CUR Member Logo
- CUR Member Discounts
- CUR Governance Policies
- Student Resources**

Assessment

CUR has partnered with Heather Haeger, California State University-Monterey Bay, to serve as CUR's inaugural Assessment Research Coordinator. Heather Haeger, in coordination with CUR's Assessment Task Force and Executive Board, has been working to develop a comprehensive set of assessment resources and tools. Please use the links below to learn more about helping to assess undergraduate research on your campus and contributing to CUR's assessment of the status of undergraduate research.

Assessment Strategies and Ideas

Assessment Toolkit

Type here to search

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Acknowledgments

- The programs presented here are distilled from many experts within the CUR organization
- More than 600 institutions have received professional development from CUR in the last decade
- More than 20,000 students have attended CUR conferences to present their research over the last five years
- National Science Foundation funding, particularly DUE CCLI III grant 09-20275, and DUE IUSE 16-25354 have proved particularly instrumental in developing our effective professional development models
- National Science Foundation funding through DUE 13-47681 and 13-47727 supports the EvaluateUR WIDER dissemination
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