



COUNCIL ON UNDERGRADUATE RESEARCH

2023-2024 Elections Engineering Division: Councilor Slate

Position Purpose: The CUR Council is a multidisciplinary body providing advisory input to the Board, so they have a broader perspective when making resource investment decisions. The Council serves in a communication capacity, surfacing key items arising from the Divisions, bridging the insight of the Division to the work of CUR as a whole, and serving as one means of information and resource dissemination from the central organization to the Divisions and members. The CUR Council is a newly developed body of volunteer leaders for this election cycle.

Needed Qualifications:

- Strong communication skills
- Previously served as a Division Councilor is a plus, but not required
- Membership with CUR
- Can not be serving concurrently as a Division Representative

There is 1 individual running.

You may vote for the candidate presented to be elected as a councilor for this division.

This division will also be accepting write-In candidates for this election cycle.

Candidate information is presented on the following pages. Click on the candidate name below to be taken to their Information In the document.

- [Valentin Soloiu](#)

Valentin Soloiu, Georgia Southern University

Engineering Division Nominee

NOMINEE STATEMENTS

Describe your leadership experience both within CUR and extramural.

Council of Undergraduate Research /DC/ Financial Councilor meeting and internet conferences, Meeting every 2 months. Review of audit documents; Draft Financial Summary; Governance/ Audit; Updates from the Executive Officer; Operations [FY Dashboard, membership report]; Investments of the NCUR; Fourth quarter projection [FY Dashboard; graphs of year-end history]; FY budget timeline. Organized and led the ASME IC Engine National Fall conference Session Technical Chair for the last 10 years

How will your skills help the Council successfully uphold its charge?

During my recent years of work in Georgia Southern, I established a distinguished Energy Cluster with alternative fuels combustion and emissions research program in automotive and jet engines, and designed and built the largest undergraduate, state of the art, energy laboratory in the Southeastern of US. Only in the last few years I applied to federal agencies 25 competitive external grants worth \$9.7M and won for my research program as a PI, 5 federal grants with a total of \$1,130,000 that brought in the last 5 years \$950,000 to the Dept. and the College. I have authored 64 peer-reviewed papers and produced 22 technical studies for Federal agencies that resulted in 21 personal awards for my research including at national level. My papers have been cited hundreds of times in peer reviewed articles in the last five years. In the last five years in Georgia Southern, I taught 7 different courses plus 11 research courses – combined to a total of 34 times and graduated 15 MSc thesis under my direction. My students won, under my supervision, tens of research grants valued approx. \$200,000 (\$150,000 external) and received 20 prizes for their research including at national level. In the service of the university I've worked in 38 committees, and at national level, and as part of my professional service and organized 14 conferences, I produced hundreds of journal reviews for 30 journals, conferences and for federal agencies. I had a prodigious outreach activity hosting and touring a couple of thousands of high school students, their families and teachers.

NOMINEE ABBREVIATED CV

An abbreviated CV highlighting the candidate's accomplishments with respect to undergraduate research is available on the next page.

NAME: Valentin Soloiu

POSITION TITLE & INSTITUTION: Prof. Allen E Paulson Distinguished Research Chair, Georgia Southern U.

A. PROFESSIONAL PREPARATION(see [PAPPG Chapter II.C.2.f.\(i\)\(a\)](#))

INSTITUTION	LOCATION	MAJOR/AREA OF STUDY	DEGREE (if applicable)	YEAR (YYYY)
Polytechnic Institute of Bucharest	Bucharest	Mechanical Engineering / Thermal Machines / Engines	BSME	1985
Ritsumeikan University	Kyoto	Mechanical Engineering/CFD & LDV Engines	PhD studies	1994
Exeter University	Exter	Mechanical Engineering / Combustion simulation, Engines	PhD studies	1995
Polytechnic University of Bucharest	Bucharest	Mechanical Engineering / Combustion CFD & LDV Engines	PhD	1997

B. APPOINTMENTS(see [PAPPG Chapter II.C.2.f.\(i\)\(b\)](#))

From - To	Position Title, Organization and Location
2014-present	Professor and Allen E. Paulson Distinguished Chair, Georgia Southern University, Statesboro, GA, USA
2008-2013	Associate-Professor and Allen E. Paulson Endowed Renewable Energy Chair, Georgia Southern University, Statesboro, GA, USA
1998-2008	Research Professor, Ritsumeikan University, College of Science and Engineering, Kyoto, JP
1990-1998	Associate Professor, Polytechnic University of Bucharest, College of Mechanical Engineering, Bucharest, Romania
1985-1990	R & D Manager, National Research Institute for Combustion Engines, Bucharest, Romania

C. PRODUCTS

(see [PAPPG Chapter II.C.2.f.\(i\)\(c\)](#))

Products Most Closely Related to the Proposed Project

1. V. Soloiu, A. Weaver**, L. Parker**, A. Brant*, R. Smith III*, M. Ilie, G. Molina, C. Carapia*, Constant volume combustion chamber (CVCC) investigations of aerospace F-24 and Jet-A in low-temperature heat release and negative temperature coefficient regions, Energy Conversion and Management Volume 263, 1 July 2022, 115687, <https://doi.org/10.1016/j.enconman.2022.115687>
2. P.R.Bhoi, S.Ouedraogo*, V.Soloiu, R.Quirino, Recent advances on catalysts for improving hydrocarbon compounds in bio-oil of biomass catalytic pyrolysis, Renewable and Sustainable Energy Reviews Volume 121, April 2020, 109676, <https://doi.org/10.1016/j.rser.2019.109676>
3. V. Soloiu, J. Wiley*, R. Gaubert**, D. Mothershed*, J. Williams*, C. Carapia*, M. Ilie, Mosfequr Rahman; “Fischer-Tropsch Coal-to-Liquid Fuel Negative Temperature Coefficient Region (NTC) and Low-Temperature Heat Release (LTHR) in a Constant Volume Combustion Chamber (CVCC)” Elsevier Energy Volume 1981, May 2020, Article 117288, <https://doi.org/10.1016/j.energy.2020.117288>
4. V. Soloiu, A. Knowles**, J. Moncada*, M. Kilpatrick*, J. Wiley*, C. Carapia*, J. Williams*, M. Rahman, Marcel Ilie “n-Butanol and Oleic Acid Methyl Ester, Combustion and NVH Characteristics in Reactivity Controlled Compression Ignition”; Elsevier Energy Volume 207, 15 September 2020 Article 118183, <https://doi.org/10.1016/j.energy.2020.118183>
5. Soloiu, C. Phillips*, T. Wiley*, A. Knowles**, C. Carapia*, D. Grall*, M. Ilie, “Exploratory Investigation of Combustion and NVH Signature of a Drone Jet Engine Fueled with IPK” American Institute of Aeronautics
*Students; **REU students

Other Significant Products, Whether or Not Related to the Proposed Project

6. V. Soloiu, J. Moncada*, R. Gaubert**, A Knowles**, “Reactivity Controlled Compression Ignition Combustion and Emissions using n-Butanol and Methyl Oleate”, Elsevier Energy, Volume 165, Part B, 15 December 2018, Pages 911-924, <https://doi.org/10.1016/j.energy.2018.09.181>
7. V. Soloiu, J. Moncada*, R. Gaubert**, M. Muiños**, S. Harp, M. Ilie, “LTC (low-temperature combustion) analysis of PCCI (premixed charge compression ignition) with n-butanol and cotton seed biodiesel versus combustion and emissions characteristics of their binary mixtures”. – Elsevier Renewable Energy 123 (2018) 323e333, <https://doi.org/10.1016/j.renene.2018.02.061>
8. V. Soloiu, R. Gaubert**, J Moncada*, J. Wiley*, M. Ilie, , “Reactivity Controlled Compression Ignition and Low Temperature Combustion of Fischer-Tropsch Fuel Blended , Renewable Energy, vol.123, pp. 1173.

D. SYNERGISTIC ACTIVITIES

(see [PAPPG Chapter II.C.2.f.\(i\)\(d\)](#))

1. PI in GSU in grants from federal agencies: DoD, NSFx5, DOE, EPAX2, FAA, ORNL, (at present PI DoD-NSF REU)
2. Publishing: over 150 journal and peer reviewed conference papers and author /co-author of 3 textbooks and 9 instruction manuals in energy; 34 research studies in the energy field. Main energy reviewer for 10 journals
3. Dr. Soloiu research is in turbojet combustion, heat transfer and emissions, spray dynamics, and mixture formation, smart-engine control strategies, and intelligent vehicles. The Energy cluster laboratories have 15 graduate and 30 undergraduate students doing research. Students research brought 60 awards in the last 15 years incl. at national level: NSF-GRFP, EPA-P3, etc.
4. Councilor of the Council of Undergraduate Research (CUR) / Engineering Division