

Part A. PERSONAL INFORMATION

CV date	Une 2021
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First and Family name	José Ramiro Varela Arias		
ID number (NIF)	33841607M	Age	60
Researcher codes	WoS Researcher ID (*)	A-3566-2016	
	SCOPUS Author ID(*)	7006361569	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-1610-1792	

(*) *At least one of these is mandatory*

(**) *Mandatory*

A.1. Current position

Name of University	University of Oviedo		
Department	Computer Science		
Address and Country	West Building Department, 1. Campus of Gijón. 33204. Gijón. Spain		
Phone number	+34985182508	E-mail	ramiro@uniovi.es
Current position	Professor	From	27/07/2018
Key words	Artificial Intelligence, Metaheuristics, Combinatorial Optimization, Scheduling		

A.2. Education

PhD	University	Year
PhD. In Computer Science	University of Oviedo	1995

A.3. JCR articles, h Index, thesis supervised...

(WoS: *Web of Science*, S: *Scopus*, GS *Google Scholar*)

Number of research sexennial: 4 (the last one 2014 – 2019)

Number of transference sexennial: 1 (up to 2015)

Number of PhD Thesis supervised on the last 10 years: 3

Number of citations: 516 (WoS), 727 (S), 1126 (GS)

Average of citations in the last 5 years: 97 (GS)

Publications ranked on SCI-JCR on the last 10 years: 25

Relevant Conferences (SCIE) on the last 10 years: 5

H index: 12 (WoS), 14 (S), 18 (GS). I10 index: 33 (GS)

Part B. CV SUMMARY (*max. 3500 characters, including spaces*)

I joined the University of Oviedo in 1985 after one year working in a company; since then I had different positions, taught different subjects in all levels of the computing science studies, and supervised more than 100 degree or master thesis. From 2018, I am professor of computer science and artificial intelligence.

I am member of, and contributed to create and develop, the intelligent Scheduling and Optimization research group (iScOp), which got economical support from the national research programs over the last two decades. In the team, 7 PhD thesis were developed, 4 of which were under FPI or assimilated contracts, 3 members went for postdoctoral stays at ISTC-CRN (Italy), Univ. College of Dublin and Univ. of Lille, in which some collaborations started, and some of which still remain. All the graduated PhD have now lecturer or reader positions and continue working with the group, which is currently composed of 9 researchers, 4 pre or postdoctoral fellows, and national and international collaborators. In this group, I carried out most of my research work in the field of artificial intelligence applied to combinatorial optimization.

I supervised 4 PhD Thesis and I am currently supervising two more, one of them supported by the national plan (FPI). I published about 100 book chapters, papers in journals and conferences, 35 of them in journals indexed in SCI-JCR (18 Q1, 10 Q2, 5 Q3, 9 Q4) and 6 in relevant conferences (SCIE ranking GII-GRIN. Class 1 y 2).



I participated in all research projects of the iScOp group and I was responsible of the last four ones (2010-2020) supported by the national plan for research of the Spanish government. I participated in 6 contracts with companies or institutions which gave rise to one international software registration in exploitation and one national patent.

Most of my research work was devoted to devise models and methods to solve scheduling problems, both formal and real-life problems in different fields of industry. We tackled problems of the family of Job Shop Scheduling with different characteristics as set-up times, additional resources or uncertainly. In this line of research, we had very good results on the benchmarks of common use and our approaches (heuristics and metaheuristics) are among the best ones in the state of the art. These methods were extended to some real-life problems as cutting-stock in roll industry, charging scheduling of electric vehicles, crew and vehicle scheduling and some timetabling problems. We have transferred a number of prototypes to industry, some of which are being exploited and others are still under proof and development.

I had an intensive referee trajectory. I have reviewed more than 300 papers for journals and conferences. I am member of the editorial board of Applied Soft Computing from 2016 and edited 4 special issues of Natural Computing. I was member of program committees of more than 25 conferences. I belong to the experts' panel of ANEP and evaluated several of proposals.

Regarding internationalization, I enjoyed a predoctoral stay in the Centre for Intelligence Systems of the Univ. of Plymouth in 1993 from January to March. I participated in many international conferences. I also collaborated with researchers from the Univ. of Lille, the ISTC-CRN (Italy), the Univ. of Jilin, the Univ. College of Dublin and the Univ. of Zagreb, many of them participated in the working team of the research projects of which I was responsible.

Part C. RELEVANT MERITS

C.1. Publications (10 selected journal papers)

1. Francisco J. Gil-Gala, Carlos Mencía, María R. Sierra, **Ramiro Varela**. Learning ensembles of priority rules for online scheduling by hybrid evolutionary algorithms. **Integrated Computer-Aided Engineering**, 28(1) 65-80, 2021. SCI-JCR I.F.: 4.706 (25/137, **Q1** Computer Science, Artificial Intelligence).
2. Francisco J. Gil-Gala, Carlos Mencía, María R. Sierra, Ramiro Varela (2019). Evolving priority rules for on-line scheduling of jobs on a single machine with variable capacity over time. **Applied Soft Computing** 85: on-line. SCI-JCR I.F.: 4.873 (11/106, **Q1** Computer Science, Interdisciplinary Applications).
3. Miguel A. González, Camino R. Vela, **Ramiro Varela** (2015): Scatter Search with Path Relinking for the Flexible Job Shop Scheduling Problem. **European Journal of Operational Research** 245(1): 35-45. SCI-JCR I.F.: 2.679 (9/82, **Q1** en Operations Research & Management Science).
4. Tong Wu, Yanchun Liang, **Ramiro Varela**, Chunguo Wu, Guozhong Zhao, Xiaosong Han (2016). Self-adaptive SVDD integrated with AP clustering for one-class classification. **Pattern Recognition Letters** 84(1): 232-238. SCI-JCR I.F.: 1.995 (58/133, **Q2** Computer Science, Artificial intelligence).
5. Raúl Mencía, María R. Sierra, Carlos Mencía, **Ramiro Varela** (2016). Genetic algorithms for the scheduling problem with arbitrary precedence relations and skilled operators. **Integrated Computer-aided Engineering** 23(3):269-285. SCI-JCR I.F.: 5.264 (11/133, **Q1** Computer Science, Artificial Intelligence)
6. Alejandro Hernández-Arauzo, Jorge Puente, **Ramiro Varela**, Javier Sedano (2015). Electric Vehicle Charging under Power and Balance Constraints as Dynamic Scheduling. **Computers And Industrial Engineering** 85:306-314. SCI-JCR I.F.: 2.086 (9/44, **Q1** Engineering, Industrial).

7. Raúl Mencía, María R. Sierra, Carlos Mencía, **Ramiro Varela** (2015). Memetic algorithms for the Job Shop Scheduling problem with operators. **Applied Soft Computing** 34:94-105. SCI-JCR I.F.: 2.857 (21/130, **Q1** Computer Science, Artificial intelligence).
8. Miguel A. González, Angelo Oddi, Riccardo Rasconi, **Ramiro Varela** (2015). Scatter search with path relinking for the job shop with time lags and setup times. **Computers And Operations Research** 60:37-54. SCI-JCR I.F.: 1.988 (19/82, **Q1** Operations Research & Management Science).
9. Carlos Mencía, María R. Sierra, **Ramiro Varela** (2014). Intensified iterative deepening A* with application to job shop scheduling. **Journal Of Intelligent Manufacturing** 25:1245-1255. SCI-JCR I.F.: 1.731 (10/40, **Q1** Engineering, Manufacturing)
10. Carlos Mencía, María R. Sierra, **Ramiro Varela** (2013). An Efficient Hybrid Search Algorithm for Job Shop Scheduling with Operators. **International Journal Of Production Research** 51(17):5221-5237. . SCI-JCR I.F.: 1.323 (29/79, **Q2** Operations Research & Management Science)

C.2. Research projects and grants

- Title: Scheduling, Optimization, New Challenges, New Methods (Ref. **PID2019-106263RB-I00**). Participation: Principal Researcher. Entities: University of Oviedo. Financing entity: Spanish Research Agency. Challenges. Data: 01/06/2020 – 01/07/2023, 36 months. Grant: 96.074,00 €. Researchers: 9 (research team).
- Title: AIDA- Artificial Intelligence & Data Analysis (Ref. **IDI/2018/000176**). Participation: Researcher. Principal Researcher: Camino R. Vela. Entities: Univ. Oviedo. Financing entity: Principality of Asturias (FEDE). Dates: 2018 -- 2020. Grant: 180.400 €. Researchers: 25.
- Title: Scheduling with multiobjective metaheuristics applied to real-life transportation problems (**TIN2016-79190-R**). Participation: Principal Researcher. Entities: University of Oviedo. Financing entity: Ministry of Economy and Competitiveness. Challenges. Data: 30/12/2016, 36 months. Grant: 148.467 €. Researchers: 6 (research team).
- Title: Intelligent techniques to obtain robust and energy aware solutions in scheduling. Application to transportation: uniovi (**TIN2013-46511-C2-2-P**). Participation: Principal Researcher. Entities: University of Oviedo (Coordinated with TIN2013-46511-C2-2-P Polytechnic University of Valencia). Financing entity: Ministry of Economy and Competitiveness. Excellence. Dates: 01/01/2014, 36 months. Grant: 65.001 €. Researchers: 8 (from University of Oviedo).
- Title: Metaheuristics for stability and robustness in scheduling under uncertainty. Refs. **TIN2010-20976-C02-02 + COF13-035**). Participation: Principal Researcher. Entities: University of Oviedo (Coordinated with TIN2010-20976-C02-01 Polytechnic University of Valencia). Financing entity: MICINN and FICYT over 2013-2014. Dates: 01/01/2011, 48 months. Grant: 90.024,00 € (TIN2010-20976-C02-02) + 13.874,73 € (COF13-035). Researchers: 9 (from University of Oviedo).
- Title: Analysis, specification and development of hybrid techniques to solving optimization and satisfiability problems- uniovi, (AEDHROS) (**TIN2007-67466-C02-01**). Participation: Researcher. Principal Researcher: Camino R. Vela. Financing entity: Ministry of Science and Education. Date: 01/10/2007, 36 months. Grant: 50.820 €. Researchers: 14 (8 (University of Oviedo) + 6 (University of Cantabria)).

C.3. Contracts

- **FUO-EM-202-1**: District allocation to street cleaning operators. EMULSA (11/06/2015-10/07/2017). IP: Jorge Puente
- **FUO-EM-331-15**: Modeling real-life Crew and Vehicle Scheduling problems and solving them with Metaheuristics. INFORCYL, S.A. (1/12/2015-31/12/2016). IP: Jorge Puente
- **FUO-EM-216-14**: Software for crew, vehicle and route management in road transport of passengers. INFORCYL, S.A. (1/01/2014-31/12/2014). IP: Jorge Puente
- **FUO-EM-075-13**: Intelligent system to schedule charging points for large fleet of electric vehicles. ITCL (29/01/2013-29/06/2014). IPs: Ramiro Varela, Jorge Puente



- **FUO-21-098:** Cashiers rostering optimization. KPI servicios informáticos. (19/02/2021) IP: Camino Rodríguez Vela

C.4. Patents and software registration

- Patent NR.: 2424592. Method and intelligent system to energy distribution over a grid with multiple charging points for plug-in electric vehicles. Date: 11.11.2014
- Software Registration: Intelligent system for cutting-stock optimization in plastic rolls industry. (Register: 05/2006/385). Still under exploitation.

C.5. Relevant Conferences (SCIE ranking GII-GRIN. Class 1 y 2, last 10 years)

1. Francisco J. Gil-Gala, María R. Sierra, Carlos Mencía, **Ramiro Varela**. The optimal filtering set problem with application to surrogate evaluation in Genetic Programming. **GECCO 2021**. (short paper)
2. Francisco J. Gil-Gala, Carlos Mencía, María R. Sierra, **Ramiro Varela**. Exhaustive search of priority rules for on-line scheduling. **ECAI 2020**, 2354-2361
3. Raúl Mencía, María R. Sierra, Carlos Mencía, **Ramiro Varela**. Schedule generation schemes and genetic algorithm for the scheduling problem with skilled operators and arbitrary precedence relations. **ICAPS'2015**, 165-173. (Class 2, Rating A). Jerusalén, Israel, 2015.
4. Miguel A. González, Camino R. Vela, **Ramiro Varela**. An Efficient Memetic Algorithm for the Flexible Job Shop with Setup Times. **ICAPS'2013**, 91–99. (Class 2, Rating A). Rome, Italy 2013.

C.6. PhD. Thesis Supervised

1. Raúl Mencía Cascallana. Metaheuristics to scheduling problems with multiple resources. 24/02/2017. Apto cum laude.
2. Carlos Mencía Cascallana. Advanced heuristic methods for scheduling problems. 4/07/2013. Apto cum laude.
3. María R. Sierra Sánchez. Improving heuristic search algorithms by means of pruning by dominance. Application to scheduling problems. 20/11/2009. Sob. cum laude (Ext. Doctorate award)
4. Jorge Puente Peinador. Computing Parallel Deductions on Multiprocessor Environment. September 2001. Apto cum laude.

C.7. Institutional responsibilities

- Referee of the ANEP for research project proposals.
- President of the Academic Commission of the Doctorate Program in Computer Science of the University of Oviedo

C.8. Memberships of committees and scientific societies

- Member of the editorial board of Applied Soft Computing from February 2016.
- Editor of 4 special issues of Natural Computing
- Regular reviewer of more than 20 journals indexed in SCI-JCR: IEEE, among others: Appl. Soft Comp., J. of Heuristics, Eur. J. of Op. Research, Comp. & Ind. Eng., Swarm and Evol. Comp., Nat. Comp., Comp. & Op. Res., Int. J. of Prod. Res., J. of Sch., J. of the Op. Res. Soc., Transp. Sc., Energy,
- Program committees of conferences and workshops: ICAPS, IWINAC, CAEPIA, COPLAS, SPARK.
- Member of the AEPIA