[ΔΡ. ΑΝΤΩΝΙΟΣ ΚΑΡΑΓΕΩΡΓΟΣ]

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ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ ΚΑΙ ΑΝΑΛΥΣΗ ΕΠΙΣΤΗΜΟΝΙΚΟΥ ΕΡΓΟΥ

ΚΑΡΔΙΤΣΑ 16-05-2016

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Αντώνιος Καραγεώργος

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1. ΣΠΟΥΔΕΣ

2003: **Διδακτορικό** στην περιοχή "Ανάπτυξη Συστημάτων Λογισμικού βασισμένου σε 'Ευφυείς' Πράκτορες"**.** Dept. of Computation, UMIST, Manchester, UK. Τίτλος διατριβής: "*Using Synthesis and Role Modelling to Reduce Complexity in Agent-based Systems Design*". BT grant No. ML816801/MH354166.

1995: **Shorter MBA** σε **Οικονομική και Λογιστική Διοίκηση**[1]**.** Όμιλος Μακεδονικών Σπουδών, Θεσσαλονίκη. Σε συνεργασία με Olympian University Foundation, Wilmington, USA.

1993: **M.Sc.** in **Computer Science.** Department of Computer Science, University of Essex, Essex, UK.

1991: **Πτυχίο Μαθηματικών.** Τμήμα Μαθηματικών, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

2. ΔΙΑΚΡΙΣΕΙΣ

2012-2013: **Υποτροφία** επιπέδου έμπειρου ερευνητή (Senior Researcher) από Ευρωπαική Ένωση για εκπόνηση έρευνας στο Manchester Business School, University of Manchester. EU Marie-Curie Intra-European Fellowship for Career Development grant No. PIEF-GA-2011-301125. Project Title: COMPOSER-Composition and Management of Polymorphic SERvices

1999-2002: **Υποτροφία** για εκπόνηση διδακτορικής διατριβής από British Telecommunications, UK (BT PhD grant No. ML816801/MH354166).

Sep 2002: **Βραβείο Αριστείου Έρευνας** (BT Labs Inventor research excellence award) από τα BT labs, UK. Τίτλος πατέντας: "*Multi-Agent System Design Using Role Models*" με S. Thompson από BT Exact Technologies, UK (Patent No. 02704934.5-2211-GB0201048).

[1] Ο τίτλος αυτός δεν αναγνωρίζεται από το ΔΙΚΑΤΣΑ.

Aug 2001: **Υποτροφία συμμετοχής** στο Sixth AAAI/SIGART Doctoral Consortium, σε συνδυασμό με IJCAI, Seattle, USA.

1994-1995: **Υποτροφία** για απόκτηση τίτλου Shorter MBA από Όμιλο Μακεδονικών Σπουδών, Θεσσαλονίκη.

1986: **Βραβείο** εισαγωγής, Τμήμα Μαθηματικών, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

3. ΕΠΑΓΓΕΛΜΑΤΙΚΟ ΕΡΓΟ

3.1 ΑΚΑΔΗΜΑΙΚΟ ΕΡΓΟ

04/16-σήμερα **Αναπληρωτής Καθηγητής** ΤΕΙ Θεσσαλίας Σχολή Τεχνολογικών Εφαρμογών, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου.

06/14-04/16 **Επίκουρος Καθηγητής** ΤΕΙ Θεσσαλίας Σχολή Τεχνολογικών Εφαρμογών, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου.

03/12-12/13 **Επίκουρος Καθηγητής με γνωστικό αντικείμενο «Ανάπτυξη Ευφυών Συστημάτων Λογισμικού και Εφαρμογές στη Δασοπονία».** ΤΕΙ Λάρισας – Παράρτημα Καρδίτσας – Τμήμα Δασοπονίας και ΔΦΠ.

05/06-03/12 **Καθηγητής Εφαρμογών με εξειδίκευση «Εφαρμοσμένη Πληροφορική».** ΤΕΙ Λάρισας – Παράρτημα Καρδίτσας – Τμήμα Δασοπονίας και ΔΦΠ.

3.2 ΕΡΕΥΝΗΤΙΚΟ ΕΡΓΟ

07/12-12/13 **Ερευνητής (Senior Marie-Curie Research Fellow):** στο έργο: COMPOSER-COmposition and Management of POlymorphic SERvices. EU Marie-Curie Intra-European Fellowship for Career Development grant No. PIEF-GA-2011-301125. Centre of Service Research, Manchester Business School, University of Manchester, UK.

01/14-05/14 **Επιστημονικός Υπεύθυνος** στο έργο "Ανάπτυξη Εργαλείων Αυτόματης Ρύθμισης Παραμέτρων Διαδικτυακού Λογισμικού". Σε συνεργασία με την επιχείρηση: "Παπαβασιλείου Ε., Μπαρμπάτσαλος Ε. & Τουρναβίτης Π." με την επωνυμία "ISOTEC Α.Ε.", Προυπ/μός 3600 ευρώ, Κέντρο Τεχνολογικής Έρευνας Θεσσαλίας (Κ.Τ.Ε).

01/13-06/15 **Επιστημονικός Υπεύθυνος** στο έργο**:** "Δυναμική Δικτύωση Επιχειρήσεων Κατασκευής Επίπλου και Ξυλοκατασκευών με χρήση Ευφυών Πρακτόρων Λογισμικού". ΕΣΠΑ 2007-2013: Πράξη Ενίσχυση Νέων και Μικρομεσαίων Επιχειρήσεων (ημερομηνία έγκρισης 14.10.2011, διάρκεια 30 μήνες, συνολικός προυπολογισμός 500.000€, μέγιστη Δημόσια Δαπάνη 375.000€). Ινστιτούτο Έρευνας και Τεχνολογίας Θεσσαλίας (Ι.Ε.ΤΕ.Θ).

02/15-11/15 **Επιστημονικός Υπεύθυνος** στο έργο "Έλεγχος Ποιότητας πρώτων υλών από ανακτώμενες ίνες για παραγωγή κυματοειδούς χαρτονιού συσκευασίας", Πρόγραμμα: "Αρχιμήδης ΙΙΙ: Ενίσχυση Ερευνητικών Ομάδων στα ΤΕΙ", προυπολογισμός 100.000€, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου, ΤΕΙ Θεσσαλίας.

09/14-09/15 **Συγγραφέας** στο έργο. Ελληνικά Ακαδημαικά Ηλεκτρονικά Συγγράμματα και Βοηθήματα, Ανάπτυξη Ηλεκτρονικού Συγγράμματος "Στοιχεία Πληροφορικής και Εφαρμογές στην Επιπλοποιία», διάρκεια 12 μήνες, προυπολογισμός 10.000€, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου, ΤΕΙ Θεσσαλίας.

09/14-09/15 **Κύριος Συγγραφέας** στο έργο. Ελληνικά Ακαδημαικά Ηλεκτρονικά Συγγράμματα και Βοηθήματα, Ανάπτυξη Ηλεκτρονικού Συγγράμματος "Στοιχεία Μαθηματικών και Εφαρμογές στην Επιπλοποιία», διάρκεια 12 μήνες, προυπολογισμός 10.000€, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου, ΤΕΙ Θεσσαλίας.

01/13-05/13 **Επιστημονικός Υπεύθυνος** στο έργο**:** "Υποστήριξη Έξυπνων Δικτύων Αγροτικών και Μικρομεσαίων Επιχειρήσεων με χρήση Τεχνολογιών Πληροφορικής ". Επιχείρηση: "Ιωάννης Βούζας", αρ. Κουπονιού: 94268407-01-000324 (προεγκρίθηκε στις 02-06-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 19/7-01-2013 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 07/01/2013-07/05/2013. Ινστιτούτο Έρευνας και Τεχνολογίας Θεσσαλίας (Ι.Ε.ΤΕ.Θ).

06/12-10/12 **Επιστημονικός Υπεύθυνος** στο έργο "Ανάπτυξη Νέων Τρόπων Διαχείρισης Υπολειμμάτων Κατεργασίας Υλικών για Κατασκευή Επίπλων με Χρήση Τεχνολογιών Πληροφορικής". Επιχείρηση: "Μιχάλης Ξαγοράρης", αρ. κουπονιού: 79136064-01-000196, (προεγκρίθηκε στις 12-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 1251/21-06-2012 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 21/06/2012-21/10/2012. Κέντρο Τεχνολογικής Έρευνας και Ανάπτυξης Θεσσαλίας (ΚΕ.ΤΕ.Α.Θ).

06/12-10/12 **Επιστημονικός Υπεύθυνος** στο έργο "Δυναμική Δικτύωση Οργανισμών Ευρύτερου Δημόσιου Τομέα". Επιχείρηση: "ΜΕΝΤΑΛ ΑΕ", αρ. κουπονιού: 27089326-01-000233 (προεγκρίθηκε στις 12-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 1251/21-06-2012 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 21/06/2012-21/10/2012. Κέντρο Τεχνολογικής Έρευνας και Ανάπτυξης Θεσσαλίας (ΚΕ.ΤΕ.Α.Θ).

06/12-10/12 **Επιστημονικός Υπεύθυνος** στο έργο "'Ευφυές' σύστημα δυναμικά προσαρμοζόμενων και στοχευμένων διαφημίσεων". Επιχείρηση: "Τάσος Ασκωνίτης", αρ. κουπονιού: 30559860-01-000256 (προεγκρίθηκε στις 12-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 1251/21-06-2012 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 21/06/2012-21/10/2012. Κέντρο Τεχνολογικής Έρευνας και Ανάπτυξης Θεσσαλίας (ΚΕ.ΤΕ.Α.Θ).

06/12-10/12 **Επιστημονικός Υπεύθυνος** στο έργο "Παροχή Προσωποποιημένων Δυναμικών Υπηρεσιών με χρήση Τεχνολογιών Πληροφορικής". Επιχείρηση: "Παπαβασιλείου Ε., Μπαρμπάτσαλος Ε. & Τουρναβίτης Π." με την επωνυμία "ISOTEC Α.Ε.", αρ. κουπονιού: 38624430-01-000248 (προεγκρίθηκε στις 12-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 1251/21-06-2012 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 21/06/2012-21/10/2012. Κέντρο Τεχνολογικής Έρευνας Θεσσαλίας (Κ.Τ.Ε)..

11/12-03/13 **Επιστημονικός Υπεύθυνος** στο έργο "Σύστημα Δυναμικά Προσαρμοζόμενης Παραγωγής και Διακίνησης Νερών και Αναψυκτικών με χρηση Τεχνολογιων Πληροφορικής". Επιχείρηση: "Δ. Καψάλης & ΣΙΑ", αρ. κουπονιού: 37759618-01-000303 (προεγκρίθηκε στις 26-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 2815/16-11-2011 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 16/11/2011-16/03/2012. Κέντρο Τεχνολογικής Έρευνας και Ανάπτυξης Θεσσαλίας (ΚΕ.ΤΕ.Α.Θ).

04/11-08/11 **Επιστημονικός Υπεύθυνος** στο έργο**:** "Δυναμικά προσαρμοσμένο "ευφυές" σύστημα διαχείρισης εργασιών παραγωγής λευκών ειδών με χρήση Τεχνολογιών Πληροφορικής". Επιχείρηση: "HOMELINE Ε.Π.Ε.", αρ. προεγκρ. Κουπονιού: 15519432-02-000093 (προεγκρίθηκε στις 26-05-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 725/15-04-2010 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 15/04/2011-15/08/2011. Επιτροπή Εκπαίδευσης και Ερευνών του ΤΕΙ/Λ.

04/11-08/11 **Επιστημονικός Υπεύθυνος** στο έργο**:** "Βελτιστοποίηση Διαδικασίας Πρίσης με χρήση Τεχνολογιών Πληροφορικής". Επιχείρηση: "Ηλίας Ντελής", αρ. προεγκρ. κουπονιού: 26364107-01-000247, ΕΠΑΝ ΙΙ: Πράξη Κουπόνια Καινοτομίας για Μικρομεσαίες Επιχειρήσεις (συνολικός προυπολογισμός 7.000€, προεγκρίθηκε στις 23-05-09, εντάχθηκε στις 15-04-2010 με την αριθ. 725/15-04-2010 απόφαση του ΥΠΔΒΜ και ολοκληρώθηκε στις 10-08-2011). Κέντρο Τεχνολογικής Έρευνας και Ανάπτυξης Θεσσαλίας (ΚΕ.ΤΕ.Α.Θ).

11/10-03/11 **Επιστημονικός Υπεύθυνος** στο έργο**:** "Ενεργητική Παροχή Πληροφοριών και Υποστήριξης σε Φαρμακεία μέσω Τεχνολογιών Διαδικτύου". Επιχείρηση: "ΣΤΑΥΡΟΣ ΛΑΔΑΣ ΚΑΙ ΣΙΑ Ο.Ε.", αρ. προεγκρ. Κουπονιού: 15519432-02-000093 (προεγκρίθηκε στις 27-04-09 και εντάχθηκε για χρηματοδότηση με την αριθ. 13004/2-11-2010 απόφαση του ΥΠΔΒΜ). Η εκτέλεση του φυσικού αντικειμένου ολοκληρώθηκε στην περίοδο 03/11/2010-02/03/2011. Κέντρο Τεχνολογικής Έρευνας Θεσσαλίας (Κ.Τ.Ε).

04/14-11/15 **Ερευνητής.** Ερευνητικό Έργο: "SPRINT SMEs: Research in Software Process ImprovemeNT Methodologies for Greek Small & Medium sized Software Development Enterprises (SMEs)", Πρόγραμμα: "Αρχιμήδης ΙΙΙ: Ενίσχυση Ερευνητικών Ομάδων στα ΤΕΙ", διάρκεια 36 μήνες, Επιστημονικός Υπεύθυνος: Δρ. Βασίλης Γερογιάννης, Τμήμα Διοίκησης και Διαχείρισης Έργων, ΤΕΙ Θεσσαλίας.

07/03-02/15 **Ερευνητής.** Ερευνητικό Έργο: "Έλεγχος Ποιότητας πρώτων υλών από ανακτώμενες ίνες για παραγωγή κυματοειδούς χαρτονιού συσκευασίας", Πρόγραμμα: "Αρχιμήδης ΙΙΙ: Ενίσχυση Ερευνητικών Ομάδων στα ΤΕΙ", , Επιστημονικός Υπεύθυνος: Δρ. Στέργιος Αδαμόπουλος, Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου, ΤΕΙ Θεσσαλίας.

10/06-03/07 **Ερευνητής** στο έργο «Συλλογή και επεξεργασία στοιχείων από διάφορες μονάδες, σχετικά με τη Σύνταξη Μελέτης συμπίεσης υπολειμμάτων κατεργασίας ξύλου», στα πλαίσια του Ερευνητικού Προγράμματος, με τίτλο «ΔΗΜΙΟΥΡΓΙΑ ΛΟΓΙΣΜΙΚΟΥ ΓΙΑ ΒΕΛΤΙΣΤΗ ΠΡΙΣΗ ΚΟΡΜΩΝ», που χρηματοδοτήθηκε από την e-FFICIENCY ΕΦΑΡΜΟΓΕΣ ΠΛΗΡΟΦΟΡΙΚΗΣ Α.Ε., ύστερα από την υπ' αριθμ. 7/21-03-2006 απόφαση της Επιτροπής Εκπαίδευσης και Ερευνών του ΤΕΙ/Λ.

03/04-12/05 **Ερευνητής.** Ερευνητικό Έργο: "Δυναμικός Σχηματισμός Οργανισμών Πρακτόρων Λογισμικού", Πράξη: "Πυθαγόρας: Ενίσχυση ερευνητικών ομάδων στα Πανεπιστήμια". Φορέας υλοποίησης: Πανεπιστήμιο Αιγαίου.

09/02-12/03 **Ερευνητής 2ης βαθμίδας (Research Fellow, Grade II).** Ερευνητικό Έργα: "Multi-Agent Business Environments (MABE)" (http://www.mabe-project.com/), και "Agentcities.NET" (http://www.agentcities.net). Τμήμα Πληροφορικής, UMIST, UK.

01/97-02/97: **Ερευνητής.** Ερευνητικό πρόγραμμα: "Βέλτιστη Οργάνωση λιμενικού τερματικού σταθμού εμπορευματοκιβωτίων, εφαρμογή στο λιμάνι της Θεσαλονίκης". Τμήμα Πολιτικών Μηχανικών, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

01/94-09/95: **Ερευνητής.** Ερευνητικό πρόγραμμα: "Κλιματικές αλλαγές και γεωργία: Εκτίμηση των επιδράσεων και εφαρμογές". Τομέας Μετεωρολογίας και Κλιματολογίας, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

10/91-01/92: **Ερευνητής.** Ερευνητικό πρόγραμμα: "Επιστημονική εποπτεία και μελέτη του ελληνικού προγράμματος πιλότου 'Αύξηση των Βροχοπτώσεων'". Τομέας Μετεωρολογίας και Κλιματολογίας, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

01/91-12/92: **Ερευνητής.** Ερευνητικό πρόγραμμα: "Η επίδραση των κλιματικών αλλαγών στη δυνατότητα γεωργικών και φυτοκομικών καλλιεργειών στην Ευρώπη". Τομέας Μετεωρολογίας και Κλιματολογίας, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης.

05/11-06/11: **Επιστημονικός συνεργάτης:** Συμμετοχή στο έργο ΕΣΠΑ με τίτλο «Ενέργεια 9: Εικονικές επιχειρήσεις (Επιχειρηματικά παίγνια – Λήψη Επιχειρηματικών Αποφάσεων)» στα πλαίσια του Έργου ΕΣΠΑ, με τίτλο «ΜΟΝΑΔΑ ΚΑΙΝΟΤΟΜΙΑΣ ΚΑΙ ΕΠΙΧΕΙΡΗΜΑΤΙΚΟΤΗΤΑΣ ΤΟΥ ΤΕΙ/Λ (MIS 304314)», που υλοποιείται στο πλαίσιο του Ε.Π. «Εκπαίδευση και Δια Βίου Μάθηση» και συγχρηματοδοτείται από την Ευρωπαϊκή Ένωση και το Ελληνικό Δημόσιο, με Επιστημονικό Υπεύθυνο τον κ. Στ. Ζαούτσο, ύστερα από την υπ' αριθμ. 92/24-05-2011 απόφαση της Επιτροπής Εκπαίδευσης και Ερευνών του ΤΕΙ/Λ.

06/10-07/10: **Επιστημονικός συνεργάτης:** Συμμετοχή στο έργο με κωδ. 3248 και τίτλο "Έσοδα Ακαδημίας Cisco" του Πανεπιστημίου Θεσσαλίας.

04/11-σήμερα **Επόπτης:** Συμμετοχή στο έργο ΕΣΠΑ με κωδ. MIS29951 και τίτλο «Πρακτική Άσκηση φοιτητών ΑΤΕΙ Λάρισας" του Τμήματος Δασοπονίας και Διαχείρισης Φυσικού Περιβάλλοντος του ΤΕΙ Λάρισας το οποίο υλοποιείται στα πλαίσια του Επιχειρησιακού Προγράμματος Εκπαίδευσης και Δια βίου μάθησης.

3.3 ΔΙΔΑΚΤΙΚΟ ΕΡΓΟ

04/16-σήμερα **Αναπληρωτής Καθηγητής** "Εισαγωγή στην Πληροφορική", "Εφαρμογές Ευφυών Συστημάτων στις Επιχειρήσεις και τη Βιομηχανία", "Σχεδίαση και Εφαρμογές Διαδραστικών Συστημάτων", "Εφαρμοσμένα Μαθηματικά", "Σχεδιαση με χρήση Η/Υ (CAD Ι)", "Σχεδιαστικά Προγράμματα (Λογισμικό) Επίπλου". Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επιπλου, ΤΕΙ Θεσσαλίας.

06/14-04/16 **Επίκουρος Καθηγητής** "Εισαγωγή στην Πληροφορική", "Εφαρμογές Ευφυών Συστημάτων στις Επιχειρήσεις και τη Βιομηχανία", "Εφαρμοσμένα Μαθηματικά", "Σχεδιαση με χρήση Η/Υ (CAD Ι)", "Σχεδιαστικά Προγράμματα (Λογισμικό) Επίπλου". Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επιπλου, ΤΕΙ Θεσσαλίας.

04/12-06/14 **Επίκουρος Καθηγητής** "Εφαρμογές Η/Υ στη Δασοπονία", "Εισαγωγή στους Η/Υ", "Γεωγραφικά Συστήματα Πληροφοριών", "Εφαρμοσμένα Μαθηματικά". Τμήμα Δασοπονίας και ΔΦΠ, ΤΕΙ Θεσσαλίας.

09/06-03/12 **Καθηγητής Εφαρμογών.** "Εφαρμογές Η/Υ στη Δασοπονία", "Εισαγωγή στους Η/Υ", "Γεωγραφικά Συστήματα Πληροφοριών", "Εφαρμοσμένα Μαθηματικά". Τμήμα Δασοπονίας και ΔΦΠ, ΤΕΙ Θεσσαλίας.

03/04-08/06: **Λέκτορας (Π.Δ/407):** "Ανάπτυξη και Σχεδίαση Λογισμικού". "Τεχνητή Νοημοσύνη", Τμήμα Μηχανικών Η/Υ, Τηλεπικοινωνιών και Δικτύων, Πανεπιστήμιο Θεσσαλίας.

09/05-08/06: **Επιστημονικός Συνεργάτης:** "Προγραμματισμός Ι" (γλώσσα C) και "Τεχνολογία Λογισμικού". Τμήμα Πληροφορικής και Τεχνολογίας Η/Υ, ΤΕΙ Λαμίας.

09/96-08/97: **Εργαστηριακός Συνεργάτης:** "Ανώτερες Τεχνικές Προγραμματισμού" (γλώσσα C), "Fortran Ι" και "Fortran ΙΙ". Τμήμα Πληροφορικής, ΤΕΙ Θεσσαλονίκης.

09/95-08/96: **Επίκουρος Καθηγητής:** "Προγραμματισμός Η/Υ Ι" (γλώσσα Basic), "Γλώσσα Pascal" και "Ανώτερες Τεχνικές Προγραμματισμού" (γλώσσα C). Τμήμα Πληροφορικής, ΤΕΙ Θεσσαλονίκης.

09/94-08/95: **Καθηγητής Εφαρμογών:** "Προγραμματισμός Η/Υ Ι" (γλώσσα Basic), "Προγραμματισμός Η/Υ Ι" (γλώσσα C), "Γλώσσα C" και "Ανώτερες Τεχνικές Προγραμματισμού" (γλώσσα C). Τμήμα Πληροφορικής, ΤΕΙ Θεσσαλονίκης.

3.4 ΔΙΟΙΚΗΤΙΚΟ ΚΑΙ ΕΠΟΠΤΙΚΟ ΕΡΓΟ

1. Πρόεδρος Τμήματος Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου ΤΕΙ Θεσσαλίας (θητεία 09/16-08/18).

2. Αναπληρωτής Διευθυντής του Μεταπτυχιακού Προγράμματος Σπουδών «Προηγμένες Μέθοδοι Κατασκευής Προιόντων από Ξύλο» που λαμβάνει χώρα στο Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου του ΤΕΙ Θεσσαλίας (θητεία 06/15-08/17).

3. Υπεύθυνος του Α' Τομέα Μαθημάτων «Δασοτεχνικών έργων και Πληροφορικής» για τα ακ. έτη 2006-07 και 2007-08 του Τμήματος Δασοπονίας και Διαχείρισης Φυσικού Περιβάλλοντος του ΤΕΙ Λάρισας.

4. Επίβλεψη 8 πτυχιακών εργασιών, επίβλεψη πρακτικής άσκησης 9 σπουδαστών, επίβλεψη δεκάωρης εβδομαδιαίας απασχόλησης σπουδαστών για 17 ακαδημαικά εξάμηνα και συμμετοχή στην Επιτροπή Εξέτασης 23 πτυχιακών εργασιών στο ΤΕΙ Θεσσαλίας.

5. Συμμετοχή σε 18 Επιτροπές διεξαγωγής διαγωνισμών του ΤΕΙ Λάρισας (5 σαν Πρόεδρος, 5 σαν μέλος και 8 σαν αναπληρωματικό μέλος).

6. Συμμετοχή σε 31 διοικητικές Επιτροπές του Τμήματος Δασοπονίας και Διαχείρισης Φυσικού Περιβάλλοντος του ΤΕΙ Λάρισας (5 σαν Πρόεδρος, 16 σαν μέλος, 8 σαν αναπληρωματικό μέλος και 2 σαν επικουρικό μέλος).

7. Συμμετοχή σε 15 Επιτροπές αξιολόγησης έκτακτων εκπαιδευτικών συνεργατών και κατατακτηρίων εξετάσεων του Τμήματος Δασοπονίας και Διαχείρισης Φυσικού Περιβάλλοντος του ΤΕΙ Λάρισας. (2 σαν Πρόεδρος, 10 σαν μέλος και 3 σαν επικουρικό μέλος).

8. Από 01/01/2014 συμμετοχή σε 15 Επιτροπές (αναγνώρισης μαθημάτων, διενέργειας διαγωνισμών, παραλαβής υλικών και εφορευτικές) του ΤΕΙ Θεσσαλίας

9. Οργάνωση του εργαστηρίου Εφαρμοσμένης Πληροφορικής του Τμήματος Δασοπονίας και ΔΦΠ το οποίο περιλαμβάνει: 1 server Dell PE2950 (16 GB Ram, 500 GB RAID HD, 2 CPU xeon 2,3 GHz, UPS 10000 VA), 25 τερματικούς σταθμούς εργασίας (quad-core CPU, 250 GB HD, 17'' monitor), 1 πολυμηχάνημα A3 Xerox Workcentre 7545VR, 1 plotter HP designjet T1200PS 44'', 1 ηλεκτροκίνητη οθόνη προβολής τοίχου 240x180 PSAC-120LLC, 1 εκτυπωτή Lexmark E350DN, 1 σαρωτή HP Scanjet 7800 sheetfeed, 1 πολυμηχάνημα ψεκασμού HP officejetPRO 8500 plus, 2 συσκευές κλιματισμού 21000 dbu και 18000 dbu, λογισμικό Erdas Imagine 2011, ArcGIS 9.3, Adobe CS5 master collection 2010, και νέα επιπλοργάνωση εγκατάστασης 2010.

4. ΕΠΙΣΤΗΜΟΝΙΚΟ ΕΡΓΟ

4.1 ΒΙΒΛΙΑ ΚΑΙ ΔΙΑΤΡΙΒΕΣ

1. Serugendo G. D. M., M. P. Gleizes and **A. Karageorgos** (eds). *Self-Organising Software: From Natural to Artificial Adaptation*. Natural Computing Series, 2011, Springer: Berlin, 462 p, ISBN 978-3-642-17347-9.

2. Brueckner S., G. D. M. Serugendo, **A. Karageorgos**, and R. Nagpal, (eds). *Engineering Self-Organising Systems: Methodologies and Applications*. Lecture Notes in Computer Science, Vol. 3464. 2005, Springer: Berlin, 299 p., ISBN 978-3-540-26180-3.

3. Serugendo, G. D. M., **A. Karageorgos**, O. F. Rana and F. Zambonelli, (eds). *Engineering Self-Organising Systems: Nature-inspired approaches to software engineering*. Lecture Notes in Computer Science, Vol. 2977. 2004, Springer: Berlin, 299 p., ISBN 978-3-540-21201-0.

4. **Karageorgos, A.** *Using Role modelling and Synthesis to Reduce Complexity in Agent-Based System Design*, PhD Thesis. Dept of Computer Science, University of Manchester Institute of Science and Technology (UMIST): Manchester, UK. 2003. p. 219.

4.2 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ ΠΕΡΙΟΔΙΚΑ ΜΕ ΚΡΙΣΗ

5. **Karageorgos, A.**, E. Rapti and V. C. Gerogiannis, 2016. "A Bio-inspired Approach for Dynamic Product Bundling in Enterprise Networks", *Journal of Software*, ISSN: 1796-217X, to appear.

6. Rapti, E., **A. Karageorgos**, C. Houstis and E. Houstis, 2016. "Decentralised Service discovery and selection in Internet of Things Applications based on Artificial Potential Fields", *Service Oriented Computing and Applications*, pp. 1-12, ISSN: 1863-2386.

7. Adamopoulos, S., **A. Karageorgos**, E. Rapti and D. Birbilis, 2015. "Predicting the Properties of Corrugated Base Papers Using Multiple Linear Regression and Artificial Neural Networks", *Drewno journal*, ISSN: 1644-3985.

8. **Karageorgos, A.**, E. Rapti and V. C. Gerogiannis, 2015. "Resource Allocation in Software Projects using a Bio-inspired Model", *Journal of Software,* Special issue based on 7th International Conference on Software Technology and Engineering (ICSTE 2015), Hongkong, September 19-20, 2015. 10, 12, (December 2015) pp.1351-1358, ISSN: 1796-217X.

9. Gerogiannis, V. C., E. Rapti, **A. Karageorgos** and P. Fitsilis, 2015. "On Using Fuzzy Linguistic 2-Tuples for the Evaluation of Human Resource Suitability in Software Development Tasks". *Advances in Software Engineering*, vol. 2015, Article ID 695873, 15 pages, ISSN: 1687-8655.

10. Trigkas, M., I. Papadopoulos, **A. Karageorgos,** E. Rapti and A. Sideras, 2015. "Value Creation Based On IT Marketing. An Exploratory Study for Developing Strategic Partnerships in the Greek Wood & Furniture Sectors". *International Journal of Technology Marketing*, Special Issue on Innovation and New Marketing Channels, 10, 4 (October 2015), pp. 345-361, ISSN 1741-8798.

11. Adamopoulos. S., **A. Karageorgos,** C. Passialis and M. Chavenetidou, 2011. "Mathematical Approach for defining Juvenile-Mature Wood Transition Zone in Black Locust and Chestnut". *Wood and Fiber Science*, 43, 3, (July 2011), pp. 336-342, ISSN: 07356161.

12. Serugendo, G.D.M., M.-P. Gleizes and **A. Karageorgos,** 2006. "Self-Organisation

and Emergence in MAS: An Overview". *Informatica*, Special issue on "Hot Topics in European Agent Research II", 30, 1 (Jan 2006), pp. 45-54, ISSN: 0350-5596**.**

13. Hassas, S., G.D.M. Serugendo, **A. Karageorgos** and C. Castelfranci, 2006. "Self-Organising Mechanisms from Social and Business/Economics domains". *Informatica*, Special issue on "Hot Topics in European Agent Research II", 30, 1 (Jan 2006), pp. 63-71, ISSN: 0350-5596.

14. Serugendo, G.D.M., M.-P. Gleizes and **A. Karageorgos,** 2005. "Self-Organisation and Emergence in Multi-Agent Systems". *Knowledge Engineering Review*, 20, 2 (Jun 2005), pp. 165-189, ISSN: 0269-8889.

15. **Karageorgos, A.,** N. Mehandjiev, A. Hämmerle, and G. Weichhart, 2003. "Agent-Based Optimisation of Logistics and Production Planning". *Engineering Applications of Artificial Intelligence, Special Issue on Intelligent Manufacturing*, 16, 4, (June 2003), pp. 335-348, ISSN*:* 0952-1976.

16. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2002. "Agent-based system design for B2B electronic commerce", *International Journal of Electronic Commerce, Special Issue on Agent Technologies for B2B Electronic* Commerce, 7, 1, (Fall 2002), pp. 59-90, ISSN*:* 1086-4415.

17. **Karageorgos, A.,** N. Mehandjiev and S. Thompson, 2002. "RAMASD: A Semi-Automatic Method for Designing Agent Organisations", *Knowledge Engineering Review, Special Issue on Coordination and Knowledge Engineering,* 17, 4 (Fall 2002), pp. 57-84, ISSN: 0269-8889.

18. D'Inverno, M. M. Luck, A. and UKMAS'01 members (incl **A. Karageorgos**), 2002. "Practical and Theoretical Innovations in Multi-Agent Systems Research", *Knowledge Engineering Review,* 17, 3 (Summer 2002), pp. 295-301, ISSN: 0269-8889.

4.3 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ ΣΥΝΕΔΡΙΑ ΜΕ ΚΡΙΣΗ

19. Rapti, E., **A. Karageorgos**, C. Houstis and E. Houstis, 2016. "A bioinspired Service discovery and selection Approach for IoT Applications", IEEE International Conference on Services Computing (SCC), San Francisco, CA, USA, 2016, pp. 868-871, doi: 10.1109/SCC.2016.126.

20. Rapti, E., **A. Karageorgos** and V. C. Gerogiannis, 2015. "Decentralised Service Composition using Potential Fields in Internet of Things Applications", In Shakshuki E. (Ed): 6th International Conference on Ambient Systems, Networks and Technologies (ANT-2015), London, United Kingdom, June 2-5, 2015. pp 700-706. Elsevier B.V., ISBN: 978-1-5108-0601-6.

21. Gerogiannis, V. C., E. Rapti, **A. Karageorgos** and P. Fitsilis, 2015. "A Fuzzy Linguistic Approach for Human Resource Evaluation and Selection in Software Projects", In Ahad A. (Ed): 5th International Conference on Industrial Engineering and Operations Management, Dubai, UAE, 3-5 March 2015. IEEE Computer Society Press, pp. 1-9, ISBN: 978-1-4799-6064-4.

22. Gerogiannis, V. C., E. Rapti, **A. Karageorgos** and P. Fitsilis, 2014. "Human Resource Assessment in Software Development Projects Using Fuzzy Linguistic 2-Tuples", In Al-Dabass D., G. Romero, E. Corchado, I. Saad, A. Orsoni, and A. Pantelous (Eds): 2nd International Conference on Artificial Intelligence, Modelling and Simulation (AIMS), Madrid, Spain, 18 – 20 November 2014. IEEE Computer Society Press, pp. 217-222, ISBN: 978-1-4799-7599-0.

23. **Karageorgos, A.,** N. Mehandjiev and E. Rapti, 2014. "Supporting Sensing Enterprise Operations with Polymorphic Service Infrastructures". In Boje, E. and X. Xia (Eds.): 19th International Federation of Automatic Control (IFAC) conference

World Congress, Invited Session on Digital and Sensing Enterprise, Cape Town, South Africa, 2014, Elsevier, pp. 9937-9942, ISBN: 978-1-63439-456-7.

24. Trigkas M., I. Papadopoulos**, A. Karageorgos,** E. Rapti and A. Sideras, 2014. "Consumers' research for an Innovative Business Networking Model in Greek Wood and Furniture Sectors". In Vrontis D., Y. Weber and E. Tsoukatos (Eds): 7th Euromed Academy of Business Conference, Krinstiansand, Norway, September 18-19, 2014, EuroMed Press, pp. 1612-1624, ISBN 978-9963-711-27-7.

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26. **Karageorgos A.**, N. Mehandjiev, and E. Rapti, "A Model for intelligent Adaptation and Evolution of Polymorphic Services", 2013. In (Eds): 6th IEEE International Conference on Service-Oriented Computing and Applications (SOCA), Kauai, Hawaii, 2013, IEEE Computer Society Press, pp. 30 – 37, ISBN 978-1-4799-2701-2.

27. **Karageorgos, A.** and E. Rapti, "Dynamic Generation of Personalized Product Bundles in Enterprise Networks", 2013. In Demey, Y. T. and H. Paneto (Eds): On the Move to the Meaningful Internet Systems: OTM 2013 Workshops, Graz, Austria, 2013, Springer, Berlin-Heidelberg, pp. 207-218, ISBN: 978-3-642-41032-1.

28. Gerogiannis, V. C., **A**. **Karageorgos,** L. Liu and C. Tjortjis, 2013. "Personalised Fuzzy Recommendation for High Involvement Products". In (Eds): IEEE International Conference on Systems, Man and Cybernetics. Manchester, UK, 13-16 October 2013, IEEE Computer Society Press, pp. 4884 – 4890, ISBN: 978-1-4799-0652-9.

29. Wajid, U., C. Marin and **A**. **Karageorgos**, 2013. "Optimizing Energy Efficiency in The Cloud Using Service Composition and Runtime Adaptation Techniques". IEEE International Conference on Systems, Man and Cybernetics. Manchester, UK, 13-16 October 2013, IEEE Computer Society Press, pp 115-120, ISBN: 978-1-4799-0652-9.

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4.4 ΑΡΘΡΑ ΣΕ ΚΕΦΑΛΑΙΑ ΔΙΕΘΝΩΝ ΒΙΒΛΙΩΝ ΜΕ ΚΡΙΣΗ

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4.5 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ WORKSHOPS ΜΕ ΚΡΙΣΗ

46. **Karageorgos, A**., E. Rapti and V.C. Gerogiannis, 2015. "Socially-Related Human Resource Allocation in Software Projects", In Grosspietsch, Erwin & Klockner, Konrad (Eds): 41st Euromicro Conference series on Software Engineering and Advanced Applications (SEAA), Madeira, Portugal, August 26-28, SEA-Publications: SEA-SR-44, ISBN 978-3-902457-44-8.

47. Efthimiou G. and **A. Karageorgos**, 2010. "Biodiversity and Ecotouristic management study of the Steni Aesthetic Forest (GR24200002) - Greece". CD-ROM Proceedings of the International Conference Pre10: Protection and Restoration of the Environment X, University of Ioannina (UOI), Ioannina Greece and Stevens Institute of Technology (New Jersey, USA), 5-9 July 2010, Corfu, Greece.

48. Mostefaoui, K. S, O.F. Rana, N. Foukia, S. Hassas, G.D.M. Serugendo, C. Van Aart and **A. Karageorgos**, 2003. "Self-Organising Applications: A Survey". Engineering Self-Organising Applications, First International Workshop (AOSE 2003), held in conjunction with AAMAS'03, Melbourne, Australia, July 15.

49. Georgousopoulos, C., O.F. Rana and **A. Karageorgos,** 2003. "Rapid development of FIPA interoperability for an existing legacy MAS". Agent-Oriented Software Engineering IV, Fourth International Workshop (AOSE 2003), held in conjunction with AAMAS'03, Melbourne, Australia, July 15.

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51. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2001. "Designing Agent Systems using a Role Algebra", Fourth Workshop of the UK Special Interest Group on Multi-Agent Systems, Oxford, UK, December 13-15, UKMAS SIG.

4.6 ΑΡΘΡΑ ΣΕ ΕΛΛΗΝΙΚΑ ΣΥΝΕΔΡΙΑ ΜΕ ΚΡΙΣΗ

52. Γ. Ευθυμίου, **Α. Καραγεώργος** και Γ. Ζιώγας (2011). "Διερεύνηση της οικοτουριστικής υποδομής και της επισκεψιμότητας στο Εθνικό Πάρκο Βόρειας Πίνδου". 15ο Πανελλήνιο Δασολογικό Συνέδριο «Δασοπονία πολλαπλών σκοπών και κλιματική αλλαγή - Προστασία και αξιοποίηση φυσικών πόρων», 16-19 Οκτωβρίου 2011, Καρδίτσα. ISBN: 978-960-89478-4-9.

53. Καραγεώργος, Α., Γ. Νταλός, Ι. Παπαδόπουλος, Β. Γερογιάννης, Ε. Ράπτη, Μ.

Τρίγκας, Α. Βαλαή, Α. Σιδεράς και Κ. Βασιλοπούλου, 2015. "e-Furniture: 'Έξυπνη' Δικτύωση Επιχειρήσεων Κατασκευής και Εμπορίας Επίπλων και Ξυλοκατασκευών", 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, 2015, pp.192-200.

54. Βαλαή, Α., Δ. Μπιρμπίλης, Α. Καραγεώργος και Σ. Αδαμόπουλος, 2015. "Πρόβλεψη ιδιοτήτων χαρτιών κατηγορίας κυματοειδούς χαρτονιού από ανακτώμενες ίνες", 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, 2015, pp. 313-320.

55. Ράπτη, Έ., Δ. Μπιρμπίλης, Α. Καραγεώργος και Σ. Αδαμόπουλος, 2015. "Χρήση Νευρωνικών Δικτύων για την Πρόβλεψη Ιδιοτήτων Χαρτιών Κατηγορίας Κυματοειδούς Χαρτονιού από Ανακτώμενες Ίνες", 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, 2015, pp. 321-328.

56. Αδαμόπουλος, Σ., Δ. Μπιρμπίλης, Ε. Ράπτη, Α. Βαλαή και Α. Καραγεώργος, 2015. "Έλεγχος Ποιότητας Πρώτων Υλών από Ανακτώμενες Ίνες για Παραγωγή Κυματοειδούς Χαρτονιού Συσκευασίας", 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, 2015, pp. 329-337.

4.7 ΠΑΤΕΝΤΕΣ

57. Thompson S. (BT Exact Technologies) and **A. Karageorgos**, 2002. *Multi-Agent System Design Using Role Models*, BT Case Ref. A26117. European Patent Office Patent No. 02704934.5-2211-GB0201048.

4.8 ΕΝΗΜΕΡΩΤΙΚΑ ΔΕΛΤΙΑ

58. Serugendo, G.D.M., M. P. Gleizes and A. Karageorgos "AgentLink Third Technical Forum Group, Self-Organisation in Multi-Agent Systems (SELF-ORG)", AgentLink Newsletter, Issue 19, November 2005, pp. 25-26, ISSN 1465-3842.

59. Serugendo, G.D.M., M. P. Gleizes and A. Karageorgos "AgentLink Second Technical Forum Group, Self-Organisation in Multi-Agent Systems (SELF-ORG)", AgentLink Newsletter, Issue 17, April 2005, pp. 24-25, ISSN 1465-3842.

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4.9 ΔΙΔΑΚΤΙΚΕΣ ΣΗΜΕΙΩΣΕΙΣ

- Καραγεώργος Α. και Η. Σφυρίδης. Σημειώσεις μαθήματος «Εφαρμογές Η/Υ στη Δασοπονία», Καρδίτσα 2011, σελ. 164.
- Καραγεώργος Α. Σημειώσεις μαθήματος «Εισαγωγή στους Η/Υ», Καρδίτσα 2011, σελ. 88.
- Καραγεώργος Α. Ασκήσεις μαθήματος «Μαθηματικά», Καρδίτσα 2011, σελ. 49.

4.10 ΕΠΙΣΤΗΜΟΝΙΚΗ ΑΝΑΓΝΩΡΙΣΗ

4.10.1 ΠΡΟΣΚΕΚΛΗΜΕΝΕΣ ΔΙΕΘΝΕΙΣ ΟΜΙΛΙΕΣ

- Invited presentation titled: "*COMPOSER: COmposition and Management of POlymoprhic Services*" at European Industry University Research Association (EIURA) forum on "Cloud Computing", 29-09-2011, Dublin, Ireland.
- Half day invited tutorial titled *"Self-Organisation and Emergence: Mechanisms and Applications"*, with G.D.M Serugendo and M.P. Gleizes. CEEMAS'05, Budapest, 15 September 2005.
- Invited presentation of my PhD work at Sixth AAAI/SIGART Doctoral Consortium, Seattle, August 2001.

4.10.2 ΙΔΡΥΣΗ ΔΙΕΘΝΩΝ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΠΕΡΙΟΔΙΚΩΝ ΚΑΙ ΟΡΓΑΝΩΣΗ ΔΙΕΘΝΩΝ ΣΥΝΕΔΡΙΩΝ

- 2005. Ίδρυση του επιστημονικού περιοδικού ACM Transactions in Autonomous and Adaptive Systems (TAAS), με δημοσίευση 1ου τεύχους στις 01/09/2006 και Impact Factor το 2010 ίσο με 1.3, και συμμετοχή στην Επιτροπή Σύνταξης (Editorial Board Member) μέχρι σήμερα.
- 2004-2010. Ίδρυση και συμμετοχή στο Προεδρείο του Self-Organisation Technical Forum Group (SELF-ORG TFG) και οργάνωση ετήσιων συναντήσεων, διεξαγωγή ομιλιών και συγγραφή δημοσιεύσεων.
- 2004. Οργάνωση του Engineering Self-Organising Applications (ESOA'04) worskhop παράλληλα με το διεθνές συνέδριο Autonomous Agents and Multi-Agent Systems (AAMAS'04), New York, USA, July 2004.
- 2003. Οργάνωση του Engineering Self-Organising Applications (ESOA'03) worskhop παράλληλα με το διεθνές συνέδριο Autonomous Agents and Multi-Agent Systems (AAMAS'03), Melbourne, Australia, July 2003.

4.10.3 ΚΡΙΤΗΣ ΣΕ ΔΙΕΘΝΗ ΠΕΡΙΟΔΙΚΑ ΚΑΙ ΔΙΕΘΝΗ ΣΥΝΕΔΡΙΑ

- Engineering Applications of Artificial Intelligence.
- Concurrency and Computation: Practice and Experience.
- International Journal of Electronic Commerce.
- Logistics Information Management: An International Journal.
- ACM Symposium in Applied Computing, Special Track on Coordination Models, Languages and Applications.
- Journal of Agent-Oriented Software Engineering
- Pervasive and Mobile Computing
- Autonomous Agents and Multi-Agent Systems Journal

4.10.4 ΜΕΛΟΣ ΕΠΙΣΤΗΜΟΝΙΚΗΣ ΕΠΙΤΡΟΠΗΣ ΣΕ ΔΙΕΘΝΗ ΣΥΝΕΔΡΙΑ

- 2016 IEEE/WIC/ACM International Conference on Web Intelligence, October 13-16, 2016 in Omaha, Nebraska, USA.
- The International Symposium on Advanced Big Data and Applications (ABA 2016), 22-24 August 2016, Vienna, Austria (In conjunction with OBD 2016 conference and FiCloud 2016 conference). [Soraya]
- Seventh International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE'15). - Nice, France March 22 - 27, 2015.

- Fifth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2015). - Nice, France March 22 - 27, 2015.
- IEEE International Conference on Systems, Man and Cybernetics (IEEE SMC 2014). San Diego, CA, USA, October 5-8, 2014.
- Sixth International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE'14). Venice, Italy , May 25 - 29, 2014.
- Twelvth International Workshop on Adaptive Computing (and Agents) for Enterprise Collaboration (ACEC'14) at WETICE 2014, 23-25 June 2014, Parma, Italy.
- Fourth International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT 2014). Rome, Italy, August 24 - 28, 2014.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2014), 11–14 August 2014 / Warsaw, Poland.
- IEEE International Conference on Systems, Man and Cybernetics (SMC'13). Manchester, UK, October 13-16, 2013.
- Fifth International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE'13). Valencia, Spain May 27 - June 1, 2013.
- Eleventh International Workshop on Adaptive Computing (and Agents) for Enterprise Collaboration (ACEC'13) at WETICE 2013, 17-20 June 2013, Hammamet, Tunisia.
- Third International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT'13). Porto, Portugal, September 29 - October 3 2012.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2013), 17–20 November 2013 / Atlanta Georgia, USA.
- Tenth International Workshop on Adaptive Computing (and Agents) for Enterprise Collaboration (ACEC'12) at WETICE 2012, 25-27 June 2012, Toulouse, France.
- Fourth International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE'12). Nice, France July 22-27, 2012.
- Second International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT'12). Barcelona, Spain September 23-28, 2012.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2012), 4–7 December 2012 / Macau, China.
- Sixth International Conference on Digital Information Management (ICDIM 2011). Trinity College, University of Melbourne, Australia, 26-28 September 2011.
- Third International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE'11). Rome, Italy, September 25-30, 2011.
- Twenty Second International Joint Confernce in Artificial Intelligence (IJCAI'11). Barcelona, Spain, July 16-22, 2011.
- First International Conference on Ambient Computing, Applications, Services and Technologies (AMBIENT'11). Barcelona, Spain, October 23-29, 2011.
- Fifth IEEE International Conference on Self-Adaptive and Self-Organizing Systems, (SASO 2011). Ann Arbor, Michigan, USA, October 3-7, 2011.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2011), 22 – 27 August 2011, Campus Scientifique de la Doua, Lyon, France.

- Ninth International Workshop on Agent-based Computing for Enterprise Collaboration (ACEC'11) at WETICE 2011, 27-29 June 2011, Paris, France.
- 15th European Conference on Software Maintenance and Reengineering (CSMR 2011), March 1–4, 2011, Oldenburg, Germany.
- 25th European Conference on Modeling and Simulation (ECMS2011), June 7th - 10th, 2011, Krakow, Poland.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2010), 31 August – 3 September 2010, Toronto, Canada.
- Eighth International Workshop on Agent-based Computing for Enterprise Collaboration (ACEC'10) at WETICE 2010, Larissa, Greece, 28 – 30 June, 2010 Location: Larissa, Greece.
- Eighth International Workshop on Engineering Societies in the Agents World (ESAW'09), Utrecht, The Netherlands, 18-20 November 2009.
- Eleventh International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2009), Self-Organizing Systems Track, Lyon, France, 3-6 November, 2009.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2009), 15-18 Sept. 2009, Milan, Italy.
- Eighth International Workshop in Engineering Societies in the Agents World (ESAW'08), Ecole Nationale Superieure des Mines de Saint-Etienne, Saint-Etienne, France, 24-26 September 2008.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2008), 9-12 December 2008, Sydney, Australia.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2007), 2-5 November 2007, California, USA.
- Eighth International Workshop in Engineering Societies in the Agents World (ESAW'07), NCSR "Demokritos", Athens, Greece, 22-24 October 2007.
- First IEEE International Conference on Self-Adaptive and Self-Organizing Systems, (SASO 2007) Boston, Mass., USA, July 9-11, 2007.
- Inaugural International Digital Ecosystems and Technologies Conference, (IEEE DEST 2007), Cairns, Australia, 21-23 February 2007.
- Fourth European Workshop on Multi-Agent Systems (EUMAS'06), Lisbon, Portugal, 14-15 December, 2006.
- Multi-Agents for modelling Complex Systems (MA4CS'06), Satellite Workshop of the European Conference on Complex Systems (ECCS'06), Oxford, UK, 25-29 September 2006.
- Seventh International Workshop in Engineering Societies in the Agents World (ESAW'06), 6-8 September 2006, University College Dublin, Ireland.
- International Workshop on Engineering Self-organising Applications (ESOA'06), held together with AAMAS'06, Future University, Hakodate, Japan, 2006.
- International Workshop on Ubiquitous Computing (IWUC 2006). held together with the 8th International Conference on Enterprise Information Systems (ICEIS 2006), May 23-27, 2006 – Paphos, Cyprus.
- Fifth International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS'06), Future Univ., Hakodate, Japan, May 8-12, 2006.

- Third European Workshop on Multi-Agent Systems (EUMAS'05), Brussels, Belgium, 7th and 8th December, 2005.
- Multi-Agents for modelling Complex Systems (MA4CS'05), Satellite Workshop of the European Conference on Complex Systems (ECCS'05), Paris, France, 14-18 November 2005.
- Sixth International Workshop in Engineering Societies in the Agents World (ESAW'05), 26-28 October 2005, Kuşadası, Aydın, Turkey.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2005), September 19-22, 2005, in Compiεgne University of Technology, France.
- International Workshop on Ubiquitous Computing (IWUC 2005). Held at the 7th International Conference on Enterprise Information Systems (ICEIS 2005), May 24-25, 2005 - Miami, USA.
- Fifth International Workshop in Engineering Societies in the Agents World (ESAW'04), 20-22, October 2004, Toulouse, France.
- IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI/IAT 2004), September 20-24 2004, Beijing, China.
- International Workshop on Ubiquitous Computing (IWUC 2004). Held at the 6th International Conference on Enterprise Information Systems (ICEIS 2004), April 13-14, Porto, Portugal.

4.10.5 ΜΕΛΟΣ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΟΡΓΑΝΙΣΜΩΝ

- Μέλος IEEE Computer Society

4.11 ΒΙΒΛΙΟΓΡΑΦΙΚΕΣ ΑΝΑΦΟΡΕΣ

Το σύνολο των βιβλιογραφικών αναφορών στο επιστημονικό έργο του Α. Καραγεώργου ανέρχεται σε 132 αναφορές σε δημοσιευμένο έργο και 14 αναφορές σε ηλεκτρονικές πηγές και έχει ως εξής:

4.11.1 ΒΙΒΛΙΑ ΚΑΙ ΔΙΑΤΡΙΒΕΣ

I. Brueckner S., G. D. M. Serugendo, **A. Karageorgos**, and R. Nagpal, (eds). *Engineering Self-Organising Systems: Methodologies and Applications*. Lecture Notes in Computer Science, Vol. 3464. 2005, Springer: Berlin, 299 p., ISBN 978-3-540-26180-3.

9 ετεροαναφορές σε δημοσιευμένο έργο

1. Noël, V., & Zambonelli, F. (2015). Methodological Guidelines for Engineering Self-organization and Emergence. *In Software Engineering for Collective Autonomic Systems*, pp. 355-378. Springer International Publishing. Retrieved from scholar.google.gr.
2. Noël, V., & Zambonelli, F. (2015). Following the Problem Organisation: A Design Strategy for Engineering Emergence. *In Intelligent Distributed Computing VIII*, pp. 311-317. Springer International Publishing. Retrieved from scholar.google.gr.
3. Abbas, H. A., Shaheen, S. I., & Amin, M. H. (2015). Organization of Multi-Agent Systems: An Overview. *International Journal of Intelligent Information Systems*, 4(3), pp. 46-57. Science Publishing Group. Retrieved from scholar.google.gr.
4. Hudson, J. and J. Denzinger (2015). Risk management for self-adapting self-organizing emergent multi-agent systems performing dynamic task

fulfillment. *Autonomous Agents and Multi-Agent Systems*, 29(5), pp. 973-1022, ISSN: 1387-2532. Retrieved from www.bookmetrix.com.

5. Noel, V., & Zambonelli, F. (2014, July). Engineering emergence in Multi-Agent Systems: Following the problem organisation. *In High Performance Computing & Simulation (HPCS), 2014 International Conference on*, pp. 444-451. IEEE. Retrieved from scholar.google.gr.
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3. 2009. Définition d'un cadre méthodologique pour la conception de modèles multi-agents adaptée à la gestion des ressources ...
   Le paradigme multi-agent qui propose une manière originale de modéliser le monde, est considéré comme un mode pertinent de représentation des connaissances. Mais ces potentialités ne doivent pas cacher les difficultés qui guettent le modélisateur. Souvent ...

[tel.archives-ouvertes.fr/.../these-Bommel.pdf]

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   Traditional software engineering approaches and metaphors fall short when applied to areas of growing relevance such as electronic commerce, enterprise resource planning, and mobile computing: such areas, in fact, generally call for open architectures ...
   [amsdottorato.cib.unibo.it/.../Tesi_ Molesini_ Ambra.pdf]

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   Os estudos dos sistemas agrícolas em geral, incluindo os sistemas de produção frutícola, com freqüência abordam a sua configuração e dinâmica numa ótica ex-post à sua origem e formação. Neste trabalho os sistemas agrícolas foram analisados numa ótica ...
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   Autonomic systems, capable of self-management, are being advocated as a solution to the problem of maintaining modern, large, complex computing systems. Given this, we believe self-organising multi-agent systems provide a convenient paradigm to develop ...
   [eprints.soton.ac.uk/72019/]

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Abstract Large--scale distributed environments can be seen as a conflict between the selfish aims of the participants and the group welfare of the population as a whole. In order to regulate the behavior of the participants it is often necessary to ...
[www.tesisenxarxa.net/TDX-0602109-102247/
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Autonomic systems, capable of self-management, are being advocated as a solution to the problem of maintaining modern, large, complex computing systems. Given this, we believe self-organising multi-agent systems provide a convenient paradigm to develop ...
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   Autonomic systems, capable of self-management, are being advocated as a solution to the problem of maintaining modern, large, complex computing systems. Given this, we believe self-organising multi-agent systems provide a convenient paradigm to develop ...
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4.11.4 ΑΡΘΡΑ ΣΕ ΚΕΦΑΛΑΙΑ ΔΙΕΘΝΩΝ ΒΙΒΛΙΩΝ ΜΕ ΚΡΙΣΗ

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5. ΑΝΑΛΥΣΗ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΕΡΓΑΣΙΩΝ

5.1 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ ΠΕΡΙΟΔΙΚΑ ΜΕ ΚΡΙΣΗ

1. Adamopoulos, S., **Karageorgos, A**., Rapti, E., & Birbilis, D., Predicting the Properties of Corrugated Base Papers Using Multiple Linear Regression and

Artificial Neural Networks, under review: *Drewno*, ISSN: 1644-3985.

Abstract: The difficulty in predicting the properties and behavior of paper products produced by heterogeneous raw materials with high percentages of recovered fibres poses restrictions on their efficient and effective use as corrugated packaging materials. This paper presents predictive models of mechanical properties of corrugated base papers (liner and fluting-medium) using multiple linear regression and artificial neural networks. The most significant results were obtained for the prediction of zero-span tensile strength in liners from the origin (wood type, pulp method) and percentage by weight of fibres with linear regression, and the prediction of compressive strength according to short-span test in machine direction for fluting-medium from a neural network with one hidden layer with 6 neurons, with coefficients of determination 99.06% and 99.28% respectively.

Keywords: recovered fibres, linerboard, corrugating medium, fibre characteristics, paper properties, multiple linear regression, artificial neural networks.

2. **Karageorgos, A.**, Rapti, E., Gerogiannis, V.C., (2015). "Resource Allocation in Software Projects using a Bio-inspired Model. *7th International Conference on Software Technology and Engineering (ICSTE 2015)*, Hongkong, September 19-20, 2015. Pp.1351-1358, ISSN: 1796-217X

Abstract: This paper introduces amodel for supporting human resource allocation decisions in software developmentprojects. The model's underlying allocation method is based on an extension of the bio-inspired response threshold modeland takes into account various aspects of the human resource allocation problem, such as the skills of available human resources, activity-related skill requirementsas well as social ties/relationships among involved human resources. The modelis demonstrated using an exemplar case problem concerning human resource allocation to a set of software development tasks.

Keywords: Human resource allocation, software project management, social networks, bio-inspired methods, response-threshold model.

3. Gerogiannis, V. C., Rapti, E., **Karageorgos, A.**, & Fitsilis, P. (2015). On Using Fuzzy Linguistic 2-Tuples for the Evaluation of Human Resource Suitability in Software Development Tasks, *Advances in Software Engineering*, vol. 2015, Article ID 695873, 15 pages, 2015. ISSN: 1687-8655.

Abstract: Efficient allocation of human resources to the development tasks comprising a software project is a key challenge in software project management. To address this critical issue, a systematic human resource evaluation and selection approach can be proven helpful. In this paper, a fuzzy linguistic approach is introduced to evaluate the suitability of candidate human resources (software developers) considering their technical skills (i.e., provided skills) and the technical skills required to perform a software development task (i.e., task-related skills). The proposed approach is based on qualitative evaluations which are derived in the form of fuzzy linguistic 2-tuples from a group of decision makers (project managers). The approach applies a group/similarity degree-based aggregation technique to obtain an objective aggregation of the ratings of task-related skills and provided skills. To further analyse the suitability of each candidate developer, possible skill relationships are considered, which reflect the contribution of provided skills to the capability of learning other skills. The applicability of the approach is demonstrated and discussed through an exemplar case study scenario.

4. Papadopoulos, I., Trigkas, M., **Karageorgos, A.**, Rapti, E., Sideras, A. (2015). Value Creation Based On IT Marketing. An Exploratory Study for Developing Strategic Partnerships in the Greek Wood & Furniture Sectors. *International Journal of Technology Marketing*, pp. 345-361, ISSN 1741-8798, 2015.

Abstract: The present research reflects opinions concerning consumers' views to the development of IT supported business strategic partnerships in the Greek wood and furniture sectors. In the partnerships considered, participating enterprises aim to develop cross-firm cooperation related to procurement of materials and intermediate products, as well as outsourcing of manufacturing tasks. Research results have shown that the potentiality of developing IT-supported buyer-supplier partnerships could constitute an innovative proposition which is quite applicable to the consumers of wood and furniture products, particularly when considering real time purchases. The results obtained from a pilot implementation indicate that Greek wood and furniture enterprises have not yet managed to sufficiently develop trustworthy relationships among them. Furthermore, it is indicated that the endorsement of IT in business marketing strategies could act as a catalyst for developing trust relationships among stakeholders and provide them with the capability to develop an easy to use, cost effective marketing tool, focusing on individual consumer needs.

Keywords: value creation, firms' partnership, wood furniture enterprises, information technology marketing, e-furniture, innovation, Greek.

5. Adamopoulos. S., **A. Karageorgos,** C. Passialis and M. Chavenetidou, 2011. Mathematical Approach for defining Juvenile-Mature Wood Transition Zone in Black Locust and Chestnut. *Wood and Fiber Science*, 43(3), pp. 336-342, **ISSN**: 07356161.

Abstract. This article defines age of transition from juvenile to mature wood in two ring-porous species, black locust (Robinia pseudoacacia L.) and chestnut (Castanea sativa Mill.). A logistic function was proposed using fiber length and ring width data of three black locust trees, aged 35-37 yr, and five chestnut coppice trees, aged 25-27 yr, from Sithonia Peninsula, Chalkidiki, Greece. The approach proved to be practical and objective in delineating maturity zones, and it was based on rate of change of yearly fiber length. The juvenile wood zone spread to the sixth growth ring from the pith in both species, whereas the demarcation of juvenile and mature wood was at age 12 and 14 yr in chestnut and black locust, respectively. Transition zone width comprised rings 7-12 in chestnut and rings 7-14 in black locust.

Keywords: Juvenile wood, transition zone, logistic function, fiber length, black locust, chestnut.

6. Serugendo, G.D.M., M.-P. Gleizes, and **A. Karageorgos,** 2006. Self-Organisation and Emergence in MAS: An Overview. *Informatica*, Special issue on "Hot Topics in European Agent Research II", 30, 1 (Jan 2006), pp. 45-54, ISSN: 0350-5596**.**

Abstract. The spread of the Internet and the evolution of mobile communication, have created new possibilities for software applications such as ubiquitous computing, dynamic supply chains and medical home care. Such systems need to operate in dynamic, heterogeneous environments and face the challenge of handling frequently changing requirements; therefore they must be flexible, robust and capable of adapting to the circumstances. It is widely believed that multi-agent systems coordinated by self-organisation and emergence mechanisms are an effective way to design these systems. This paper aims to define the concepts of self-organisation and emergence and to provide a state of the art survey about the different classes of self-organisation mechanisms applied in the multi-agent systems domain. Furthermore, the strengths and limits of these approaches are examined and research issues are provided.

Keywords: multi-agent systems, self-organisation, emergence

7. Hassas, S., Serugendo, G.D.M., **Karageorgos, A.** and C. Castelfranci, 2006. Self-

Organising Mechanisms from Social and Business/Economics domains. *Informatica*, Special issue on "Hot Topics in European Agent Research II", 30, 1 (Jan 2006), pp. 63-71, ISSN: 0350-5596.

Abstract. This paper discusses examples of socially inspired self-organisation approaches and their use to build socially-aware, self-organising computing systems. The paper presents different mechanisms originating from existing social systems, such as stigmergy from social insects behaviours, epidemic spreading, gossiping, trust and reputation inspired by human social behaviours, as well as other approaches from social science related to business and economics. It also elaborates on issues related to social network dynamics, social network patterns, social networks analysis, and their relation to the process of self-organisation. The applicability of socially inspired approaches in the engineering of self-organising computing systems is then illustrated with applications concerning WWW, computer networks and business communities.

Keywords: self-organisation, networks, social functions, business networks, social learning

8. Serugendo, G.D.M., M.-P. Gleizes, and **A. Karageorgos,** 2005. Self-Organisation and Emergence in Multi-Agent Systems. *Knowledge Engineering Review*, 20, 2 (Jun 2005), pp. 165-189, ISSN: 0269-8889.

Abstract. This paper is the synthesis of joint work realised in a technical forum group within the AgentLink III NoE framework, which elaborated on issues concerning self-organization and emergence in multi-agent systems (MAS). The work concluded on a common definition of the concepts of self-organization and emergence in MAS and the associated properties and characteristics. Also it developed towards an approach for selecting self-organization mechanisms using a number of selected reference case studies and a set of evaluation criteria.

9. **Karageorgos, A.,** Mehandjiev, N, Hämmerle, A. and G. Weichhart, 2003. Agent-Based Optimisation of Logistics and Production Planning. *Engineering Applications of Artificial Intelligence, Special Issue on Intelligent Manufacturing*, 16, 4, (June 2003), pp. 335-348, ISSN: 0952-1976.

Abstract. Manufacturing and logistics service provision enterprises are currently moving towards open virtual enterprise collaboration networks to meet the needs of the Global Economy. In such networks, manufacturing and logistics planning and scheduling is challenging due to the difficulties in integrating information from different partners and in exploring a large and dynamically changing number of planning and scheduling alternatives. Agent-based technology is considered suitable to support planning and scheduling in such enterprises because agents can dynamically adapt their behaviour to changing requirements and they can reduce the number of planning and scheduling alternatives via negotiation.

This paper presents an agent-based approach for supporting logistics and production planning, taking into account not only production schedules but also availability and cost of logistic service providers. This is achieved through efficient negotiation mechanisms based on an extended contracting protocol. The agent infrastructure is being developed within the context of Agentcities, a successful EU-funded initiative to build a world-wide distributed and open platformwhich provides agent-based services.

The proposed approach is illustrated in a case study concerning optimisation of production planning of a virtual manufacturing enterprise in relation to sub-contracted logistic services used to transport materials between the enterprise units.

Keywords: Agents, Agent-based systems, Enterprise integration, Manufacturing systems, Interaction protocols, Holonic systems

10. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2002. Agent-based system design for B2B electronic commerce, *International Journal of Electronic Commerce, Special Issue on Agent Technologies for B2B Electronic* Commerce, 7, 1, (Fall 2002), pp. 59-90, ISSN: 1086-4415.

Abstract. Agent-based systems are increasingly used to support business-to-business (B2B) electronic commerce and other Internet-based transactions. The design complexit y resulting from the multiple interconnected systems in these domains has to be managed in order to reduce costs and time to market.

This paper introduces the Role-Algebraic Multi-Agent System Design (RAMASD) approach. RAMASD utilizes role models as reusable system-building blocks and a role algebra to capture the basic relations of roles. A t wo-sorted algebra is used to define the role algebra's semantics. RAMASD reduces the complexit y of designing agent-based B2B e-commerce systems by enabling designers to work at a high level of abstraction and by automatically allocating roles to agents according to applicable role models and design constraints.

A case study concerning a B2B electronic market for the automotive industry demon-strates the applicability of RAMASD. The advantages and disadvantages of the proposed approach are discussed, and comparisons with relevant work are made.

Keywords: Agent-oriented software engineering, Agent organisations, Agent-based e-business

11. **Karageorgos, A.,** N. Mehandjiev and S. Thompson, 2002. RAMASD: A Semi-Automatic Method for Designing Agent Organisations, *Knowledge Engineering Review, Special Issue on Coordination and Knowledge Engineering,* 17, 4 (Fall 2002), pp. 57-84, ISSN: 0269-8889.

Abstract. Designing realistic multi-agent systems is a complex process, which involves specifying not only the functionality of individual agents, but also the authority relationships and lines of communication existing among them. In other words, designing a multi-agent system refers to designing an agent organisation. Existing methodologies follow a wide variety of approaches to designing agent organisations, but they do not provide adequate support for the decisions involved in moving from analysis to design. Instead, they require designers to make ad hoc design decisions while working at a low level of abstraction.

We have developed RAMASD (Role Algebraic Multi-Agent System Design), a method for semi-automatic design of agent organisations based on the concept of role models as first-class design constructs. Role models represent agent behaviour, and the design of the agent system is done by systematically allocating roles to agents. The core of this method is a formal model of basic relations between roles, which we call role algebra. The semantics of this role-relationships model are formally defined using a two-sorted algebra.

In this paper, we review existing agent system design methodologies to highlight areas where further work is required, describe how our method can address some of the outstanding issues and demonstrate its application to a case study involving telephone repair service teams.

12. D'Inverno, M. M. Luck, A. and UKMAS 2001 Contributors (incl. **A. Karageorgos**), 2002. Practical and Theoretical Innovations in Multi-Agent Systems Research, *Knowledge Engineering Review,* 17, 3 (Summer 2002), pp. 295-301, ISSN: 0269-8889.

Abstract. UKMAS has now been running for six years, in 1996 and 1997 under the heading of FoMAS (Foundations of Multi-Agent Systems) both organised by Michael Luck at Warwick University an then subsequently in its current incarnation, UKMAS, first by Michael Fisher at Manchester Metropolitan University then by Chris Preist at Hewlett Packard Laboratories, Bristol and finally

by Mark d'Inverno at St Catherine's College, Oxford in 2000. After the success of the workshop last year at St Catherine's in providing an excellent opportunity for academics and industrialists to come together to discuss current work and directions in the multi-agent systems field, it was decided by the steering committee to use St Catherine's once again as the venue for UKMAS 2001. The workshop was sponsored by the Engineering and Physical Sciences Research Council and by AgentLink, the European Commission's IST-funded Network of Excellence for Agent-Based Computing.

5.2 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ ΣΥΝΕΔΡΙΑ ΜΕ ΚΡΙΣΗ

13. **Karageorgos, A.,** Rapti, E., & Gerogiannis, V.C. (2015). Socially-Related Human Resource Allocation in Software Projects, 41st Euromicro Conference series on Software Engineering and Advanced Applications (SEAA), Madeira, Portugal, August 26-28, 2015.

Abstract. In the software engineering literature there are various informal and formal approaches aiming to support the allocation of human resources to software project tasks. Available human resources, such as software developers, are assigned to project tasks and teams are formed according to project managers' evaluation on people skills, their availability constraints and skill-related task requirements. However, the success of a software development project does not depend only on the expertise of the people involved in the various project tasks, but also on how effectively people collaborate, communicate and work together in teams. Failure to address issues of social interaction and ineffective human resource collaboration will compromise the success of a distributed software development project. Considering the complex requirements and issues of human resource allocation in software development projects, in this paper we outline a new human resource allocation approach based on the probabilistic bio-inspired response threshold (RTM) computation model. The proposed approach considers social relations when allocating human resources to software tasks, based on the view that socially-related co-workers collaborate more effectively.

14. Rapti, E., **Karageorgos, A**. & Gerogiannis, V. (2015). Decentralised Service Composition using Potential Fields in Internet of Things Applications, In Shakshuki E. (Eds): 6th International Conference on Ambient Systems, Networks and Technologies (ANT-2015), London, United Kingdom, June 2-5, 2015. Pp 700-706. Elsevier B.V., ISBN: 978-1-5108-0601-6.

Abstract. Traditional service composition approaches rely mostly on centralised architectures, which have been proven inadequate in pervasive Internet of Things (IoT) environments. In such settings, where decentralisation of decision-making is mandatory, nature-inspired computing paradigms have emerged due to their inherent capability to accommodate spatiality, self-adaptivity, and evolvability. In this paper, taking inspiration from natural metaphors we propose a decentralised service composition model which is based on artificial potential fields. In the proposed approach, artificial potential fields (APFs) lead the service composition process through the balance of forces applied between service requests and service nodes. APFs are formed considering the percentage of user requested services that can be offered by service provision nodes, as well as service node availability. The applicability of the proposed approach is discussed in an exemplar scenario concerning dynamic and personalised composition of an audio-visual virtual guide service in an IoT network of a trade show venue.

Keywords: Decentralised Service Composition, Dynamic Services, Internet of Things, Nature-inspired Computing, Artificial Potential Fields.

15. Gerogiannis, V. C., Rapti, E., **Karageorgos, A.** & Fitsilis, P. (2015). A Fuzzy

Linguistic Approach for Human Resource Evaluation and Selection in Software Projects. 5th International Conference on Industrial Engineering and Operations Management, Dubai, UAE, 3-5 March 2015. IEEE Computer Society Press, pp. 1-9, ISBN: 978-1-4799-6064-4.

Abstract. One of the key challenges in software projects is the efficient allocation of human resources to software development tasks. To achieve this challenge, the proper human resource evaluation and selection is an important step. In this paper we present a fuzzy linguistic approach that utilizes 2-tuple fuzzy linguistic terms and supports the selection of suitable human resources based on their skills and the required skills for each project task. The proposed approach follows a group, multi-criteria, similarity degree-based aggregation algorithm and results in an objective aggregation of the ratings of required task related skills and provided skills from candidate human resources. In addition, we consider skill relationships as 2-tuple fuzzy linguistic terms to reflect the contribution of one skill to the learning of other skills. The proposed approach has been implemented in the context of SPRINT SMEs project. SPRINT SMEs aims to suggest a practical framework of methods for the improvement of software processes which take place in small & medium sized software development enterprises.

Keywords. software project management, human resource evaluation, 2-tuple fuzzy linguistic model, similarity-degree based aggregation.

16. Gerogiannis, V. C., Rapti, E., **Karageorgos, A.** & Fitsilis, P. (2014). Human Resource Assessment in Software Development Projects Using Fuzzy Linguistic 2-Tuples. Artificial Intelligence, Modelling and Simulation (AIMS), 2014 2nd International Conference on, Madrid, Spain, 18 – 20 November 2014. IEEE Computer Society Press, pp. 217-222, ISBN: 978-1-4799-7599-0

Abstract. Proper selection and allocation of human resources to software development tasks is one of the key challenges in software development projects. In this paper we present a fuzzy linguistic approach that supports the selection of suitable human resources based on their skills and the required skills for each project task. The proposed approach uses 2-tuple fuzzy linguistic terms and results in an objective aggregation of the ratings of required task related skills and provided skills from candidate human resources. The approach applies a group-based, multi-criteria, similarity degree-based aggregation algorithm. To reflect the contribution of one skill to the learning of other skills, the approach also considers possible relationships between skills. A numerical example is presented as a proof of concept to demonstrate the applicability of the approach.

Keywords: software project management, human resource evaluation, 2-tuple fuzzy linguistic representation/computation model.

17. **Karageorgos, A.**, Mehandjiev, N., & Rapti, E. (2014). Supporting Sensing Enterprise Operations with Polymorphic Service Infrastructures. In: Boje, E., Xia, X. (Eds.): 19th International Federation of Automatic Control (IFAC) conference World Congress, Invited Session on Digital and Sensing Enterprise. pp. 2408-2413, Cape Town, South Africa, 2014. Pp.9937-9942, ISBN: 978-1-63439-456-7.

Abstract: Sensing enterprises span both physical and virtual boundaries and require support for dynamic re-configurability and decentralised collaboration among large numbers of data retrieval and information processing nodes. Current information technology infrastructures lack sufficient support for decentralized service formation requiring either concentration of all relevant information to a central decision making point or considering static distributed processing node configurations. In this paper we propose a service-oriented infrastructure for supporting sensing enterprise operations which is based on polymorphic services.

Such services are capable of adapting and evolving dynamically according to fluctuations of the environmental context. The applicability of the proposed approach is discussed in an exemplar case study scenario concerning a Medium Density Fiberboard production process.

Keywords: Sensing Enterprises, Internet of Services and Service Science, Multi-agent Systems.

18. Trigkas M., Papadopoulos, I., **Karageorgos, A.,** Rapti, E. & Sideras, A. (2014). Consumers' research for an Innovative Business Networking Model in Greek Wood and Furniture Sectors. 7th Euromed Academy of Business Conference, Krinstiansand, Norway, September 18-19 2014, EUROMED Proceedings, pp. 1612-1624, ISBN 978-9963-711-27-7.

Abstract: The present research is mapping opinions regarding the consumers' correspondence to the development of a pilot implementation of a business networking model with the use of IT in Greek wood and furniture sectors. The participating enterprises are aiming to their cross - firm cooperation related to the procurement of materials and intermediate products and outsourcing. Based on specially constructed questionnaire, the researchers addressed to 66 consumers of wood and furniture products. Findings have shown that, the potentiality of developing the proposed dynamic network, could constitute an innovative proposition which finds resonance to the consumers of wood and furniture products, based to the characteristic of real time purchases. The expected benefits of participating in such a network, could constitute a fundamental competitive advantage of the network's enterprises. This fact is deemed to be of great importance for wood and furniture sectors, especially during the present economic downturn. Furthermore, supporting strategies should be developed. It seems that wood and furniture enterprises have not yet managed to develop trustworthy relationships among them and to spot the opportunities they have in developing cooperative activities using high technology, acquiring a fundamental competitive advantage. In order for this target to be achieved, they should focus to specific cooperative activities and to the exchange of entrepreneurial practices, without this strategic choice be in confrontation to their independent operation.

Keywords: business network, business model, innovation, value creation, wood & furniture enterprises, e- Furniture, consumers' research.

19. Rapti, E., Karageorgos, A., & Ntalos, G. (2014). Adaptive Constrained and Rule-based Product Bundling in Enterprise Networks. In: Reddy, S. (ed.): Enabling Technologies: Infrastructures for Collaborative Enterprises (WETICE), 12th IEEE International Workshop on Adaptive Computing (and Agents) for Enhanced Collaboration, June 23-25, Parma, Italy, 2014, IEEE Computer Society Press, pp. 15-20, ISBN 978-1-4799-4249-7.

Abstract. Product bundling refers to the combination of several products for sale as one product. Current bundling approaches lack the ability to adapt, focusing mostly on the creation of pre-computed static bundles, which prove to be inefficient considering the dynamically changing prospective customer needs and product availability, as is particularly the case in enterprise networks. This paper describes a novel approach for dynamic generation of personalized, constrained and rule-based product bundles in such environments. The proposed agent-based approach involves estimation of substitution and complementarity associations between products and constructing bundles according to individual customer preferences. The process adapts automatically to changing circumstances, such as customer profile, product availability and constraint and rule diversity. The proposed approach is discussed in the context of e-Furniture, an agentbased system supporting networking of furniture and wood product manufacturing enterprises.

Keywords. Adaptive product bundling, constraint-based bundling, rule-based product bundling, enterprise networks.

20. **Karageorgos A.,** Mehandjiev, N. & Rapti, E. (2013). A Model for intelligent Adaptation and Evolution of Polymorphic Services. Presented at the 6th IEEE International Conference on Service-Oriented Computing and Applications (SOCA), Kauai, Hawaii, 2013, IEEE Computer Society Press, pp. 30 – 37, ISBN 978-1-4799-2701-2.

Abstract. The highly dynamic nature and ubiquity of contemporary computer environments requires services to adapt and evolve to match varying contexts. Such services can be referred to as polymorphic since they can deliver their functionality in different forms. This paper proposes a fuzzy-based model for intelligent adaptation and evolution of polymorphic services based on context. Context is represented by parameters whose values fluctuate dynamically and their characteristics, such as range and mean, can evolve in time. Service adaptation is realized by selecting suitable service provision policies depending on context parameter configurations. The suitability of each service provision policy is determined by qualitative criteria which are estimated by fuzzy rules applied on context parameter values. Evolution is realized by having the fuzzy rule structure and parameters altered dynamically to align with evolved context. The applicability of the proposed approach is demonstrated in a traffic management case study.

Keywords. Polymorphic Services, Service Adaptation, Service Evolution, Intelligent Service Maintenance.

21. **Karageorgos, A**. & Rapti, E. (2013). Dynamic Generation of Personalized Product Bundles in Enterprise Networks. On the Move to the Meaningful Internet Systems: OTM 2013 Workshops, Graz, Austria, 2013, Springer Berlin Heidelberg, pp. 207-218. ISBN: 978-3-642-41032-1.

Abstract. Product bundling is a marketing strategy that concerns offering several products for sale as one combined product. Current technology mainly focuses on the creation of static bundles, which involves pre-computing product bundles and associated discounts. However, due to the inherent dynamism and constant change of current and potential customer information, as is particularly the case in enterprise networks, static product bundles prove to be inefficient. In this paper an approach for dynamic generation of personalized product bundles using agents is proposed. Our approach involves creating bundles based on substitution and complementarity associations between product items, and subsequently ranking the produced bundles according to individual preferences and history of each customer. The proposed approach has been implemented in e-Furniture, an agent-based system supporting networking of furniture and wood product manufacturing enterprises.

Keywords: Product Bundling, Personalization, Agent-Based Systems, Enterprise Networks.

22. Gerogiannis, V., Karageorgos, A. Liu, L. and C. Tjortjis (2013). Personalised Fuzzy Recommendation for High Involvement Products. IEEE International Conference on Systems, Man and Cybernetics. Manchester, UK, 13-16 October 2013, IEEE Computer Society Press, pp. 4884 - 4890. ISBN: 978-1-4799-0652-9.

Abstract. In this paper we introduce a content-based recommendation approach for assisting buyers of high involvement products with their purchasing choice. The approach incorporates a group-based, fuzzy multi-criteria method and provides personalized recommendation to end-users of e-Furniture. E-Furniture is an agent-based system that offers decision making and process networking solutions to furniture manufacturing SMEs. Two are the main characteristics of the proposed approach: (i) it handles vagueness in customer preferences and seller evaluations on

furniture products by utilizing the 2-tuple fuzzy linguistic information processing model and ii) it follows a similarity degree-based aggregation technique to derive an objective assessment for furniture bundles and individual furniture products that can match the customer preferences. A numerical example is given as a proof of concept, to demonstrate the applicability of the approach for providing recommendations to customers.

Keywords. Personalised recommendation, content-based recommendation, product bundling, 2-tuple fuzzy linguistic model, similarity-degree based aggregation, high involvement products, furniture shopping.

23. Wajid, U., Marin, C. and **A. Karageorgos**, 2013. Optimizing Energy Efficiency in The Cloud Using Service Composition and Runtime Adaptation Techniques. IEEE International Conference on Systems, Man and Cybernetics. Manchester, UK, 13-16 October 2013, IEEE Computer Society Press, pp 115-120. ISBN: 978-1-4799-0652-9.

Abstract. This paper describes an approach for service composition optimization and its application in cloud computing to streamline resource usage that in turn contributes towards energy efficiency. The suitability and usefulness of the approach is evaluated by experimentation. In the experiments, physical hosts at various cloud sites represent candidate services that are brought together in a composition to satisfy the requirements of applications. The composition is optimized based on functional and non-functional criteria to determine a set of cloud services representing energy efficient deployment configurations. We also propose a runtime adaptation model that can help in minimizing energy consumption of cloud applications at runtime.

Keywords. Cloud computing, energy efficiency, optimization.

24. **Karageorgos, A.**, Avramouli, D., Ntalos, G., Tjortjis, C. and K. Vasilopoulou, 2010. Towards Agent-Based 'Smart' Collaboration in Enterprise Networks. In: Reddy, S. (ed.): Enabling Technologies: Infrastructures for Collaborative Enterprises (WETICE), 19th IEEE International Workshop on Agent Computing for Enterprise Collaboration., Larissa, Greece, 20-23 June, IEEE Computer Society Press, pp. 35-40, ISBN: 978-1-4244-7216-1.

Abstract. International competition and dynamically changing customer demands lead SME's to join dynamically formed, 'smart' enterprise networks aiming to increase their competitiveness and market share. Supporting such networks with decision making related to collaborations and providing adaptive user interfaces are key challenges. In this paper, we use furniture manufacturing SME's as a case study and we provide an overview of our ongoing work on e-Furn, an agent-based system for supporting 'smart' collaboration in enterprise networks. We outline two main features of the proposed approach: a) assisting users in typical collaboration decisions, such as product bundling and task outsourcing, and b) providing users with dynamically adaptive user interfaces.

Keywords: Smart business networks, Agent-based enterprise collaboration, Intelligent recommendation systems, Data mining

25. **Karageorgos, A.**, Avramouli, D., Tjortjis, C. and G. Ntalos, 2010. Agent-Based Digital Networking in Furniture Manufacturing Enterprises. Second International Conference on 'Networked Digital Technologies' (NDT 2010). Prague, Czech Republic (2010), Springer: Berlin, pp. 381-395, F. Zavoral et al. (eds), ISBN 978-3-642-14305-2.

Abstract. International competition and varying customer needs commonly cause small and medium furniture manufacturing enterprises to join dynami-cally-formed, 'smart' enterprise networks, established and operating using digi-tal information

technologies. In this paper, we propose a technological approach to support such enterprise networks which is primarily based on the use of software agents. First we outline the reasons motivating networking in furniture manufacturing enterprises and we briefly present core smart enterprise network concepts. Subsequently, we provide an overview of the main technologies cur-rently used to support enterprise networks, and we make the case for utilising service-orientation and adaptive, (semi-) autonomous software components, such as software agents. Furthermore, we propose a four-tier software architec-tural framework based on software agents and web services, and we briefly de-scribe the requirements, the architecture and main features of the e-Furn software system, which is based on that framework. Finally, we discuss the intelligent recommendation feature of e-Furn.

Keywords: Smart Business Networks, Enterprise Networks, Software Agents, Multi-Agent Systems, Web Services, Furniture Manufacturing, Data Mining.

26. Konstandinidis, V. and **A. Karageorgos**, 2005. A Pattern language for FIPA Aagent interface design. EUROCON 2005, The International Conference on "Computer as a tool". Sava Center, Belgrade, Serbia & Montenegro, November 21-24, 2005, IEEE Press, pp. 1267 – 1270, ISBN**:** 1-4244-0049-X.

Abstract. This paper presents a pattern language supporting the design of web/mobile interfaces to static agents built by FIPA-compliant agent toolkits.

The approach followed was to collaboratively gather the requirements the language should satisfy, and derive, select and combine appropriate patterns fulfilling them.

The use of the language has been validated in four case studies and its suitability for meeting the agent interface development requirements has been evaluated using Force Resolution Maps (FRMs). It is has been found that the proposed language fully satisfies the identified requirements.

Keywords: Agent Interfaces, Design Patterns, FIPA, Pattern Languages.

27. Hämmerle, A., **Karageorgos, A.**, Reitbauer, A. and M. Pirker, 2004. A Role-Based Infrastructure for Customised Agent System Development in Supply Networks. IEEE International Conference on Systems, Man and Cybernetics (SMC'2004), Hague, The Netherlands, 10-13 October, IEEE Press, pp. 4692 – 4699, vol.5, ISBN: 0-7803-8566-7.

Abstract. This paper presents a methodology for generic role identification and role reuse together with an infrastructure enabling rapid development of role-based multi-agent system (MAS) applications. The infrastructure includes a FIPA compliant runtime environment for role execution as well as a library of generic roles and interaction protocols (IPs) capturing generic agent behaviours and communication abilities. The library has been generated by applying the methodology for generic role identification to a set of real-world scenarios from three different industrial domains, encompassing different aspects of collaboration in supply networks. Developers build their applications for the runtime environment by reusing and extending roles and IPs from this library.

Keywords: Next generation infrastructures, Collaborative intelligent systems, Systems modelling and control.

28. Reitbauer, A., Battino, A., **Karageorgos, A.,** Mehandjiev, N., Valckenaers P. and B. Saint Germain, 2005. THE MABE MIDDLEWARE: Extending multi-agent systems to enable open business collaboration. in *Emerging Solutions for Future Manufacturing Systems,* selected papers from 6th IFIP International Conference on Information Technology for Balanced Automation Systems in Manufacturing and Services, Vienna, Austria, 27-29 September 2004 (BASYS'04). L. M. Camarinha-Matos (ed), IFIP Press, pp. 53-60. ISBN 0-387-22828-4.

Abstract. The research project MaBE aims at the development of multi-agent middleware supporting cooperation in open business environments, using real-world case studies of dynamic virtual enterprises. These case studies provide us with a library of scenarios of inter- and intra- organisational cooperation, which impose certain requirements to effective middleware platform supporting such cooperation. Some of these requirements can not be directly implemented within the FIPA-compliant agent platform which underpins the middleware we aim to develop. For example, dynamic handling of multiple and evolving ontologies, security and trust issues as well coordination in open environments require further research before building the middleware functionality supporting them. Since these issues are perceived as key enablers for open business collaborations, this paper provides an overview of the research undertaken to address them.

29. **Karageorgos, A.**, and N. Mehandjiev, 2004. A Design Complexity Evaluation Framework for Agent-Based System Engineering Methodologies. Engineering Societies in the Agents World IV (ESAW 2003), London, UK. LNCS 3071, Springer: Berlin, Omicini, A., Peta, P. and J. Pitt (eds), p. 258-274, ISBN 978-3-540-22231-6.

Abstract. Complexity in software design refers to the difficulty in understand-ing and manipulating the set of concepts, models and techniques involved in the design process. Agents are sophisticated software artefacts, associated with a large number of features and therefore Agent-Based System (ABS) engineering methodologies involve considerable design complexity. This paper proposes a framework to evaluate ABS engineering methodologies against a number of criteria related to design complexity. The framework is applied to a number of representative ABS engineering methodologies. The strengths and weaknesses of each methodology with respect to the framework aspects are discussed within the context of a case study involving a virtual enterprise combining manufacturing and logistics services. The evaluation results are used to moti-vate and guide further work in the area.

30. Mehandjiev N., **Karageorgos, A.** and G. H. Tsang, 2003. Designing Coordination Systems for Distributed Teamwork. International Workshop on Distributed and Mobile Collaboration (DMC 2003), IEEE International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE-2003), Linz, Austria, June 9-11, IEEE Press, p. 117-122, ISBN**:** 0-7695-1963-6.

Abstract. Contemporary working environments are increasingly complex, volatile and physically distributed. Coordinating work in such environments is therefore becoming a major challenge as the traditional focus on efficient schedules is shifting to include other factors such as rapid reaction to market changes.

This paper argues that effective coordination support should be based on a two-level coordination model supported by agent-based implementation infrastructure. Operational coordination processes take place at the inter-level, while the meta-level is concerned with managing the inter-level coordination processes by considering dynamically changing goals and factors.

This division is at the heart of our novel approach to work coordination presented here. A case study of distributed telecom repair teams is used to illustrate the approach.

31. Georgousopoulos, C., Rana, O.F., and **A. Karageorgos,** 2004, Supporting FIPA Interoperability for Legacy Multi-Agent Systems. In Agent-Oriented Software Engineering IV, Fourth International Workshop (AOSE 2003), Melbourne, Australia, July 15, Giorgini, P., Müller, J.P. and J. Odell (eds), LNCS 2935, Springer:Berlin, p. 167-184. ISBN 978-3-540-20826-6.

Abstract. The conversion of a Multi-Agent System (MAS) into a FIPA-compliant system (i.e. one that adheres to FIPA standards) is important to support

interoperability across different MAS. We provide an approach to undertaking such a conversion using FIPA-compliant gateways [7]. This approach avoids the need to re-write the entire legacy system to adhere to FIPA specifications. We propose an architecture for FIPA-compliant gateways that could be connected to a legacy MAS to provide automated FIPA interoperability. The use of the gateways is demonstrated within a Digital Library composed of multi-spectral images of the Earth, as part of the Synthetic Aperture Radar Atlas (SARA).

32. **Karageorgos, A.,** Mehandjiev, N, Hämmerle, A. and G. Weichhart, 2003. Agent-Based Optimisation of Logistics and Production Planning. 7th IFAC Workshop on Intelligent Manufacturing Systems, IMS 2003, Budapest, Hungary, April 6-8, Monostori, L., B. Kadar and G. Morel (eds), IFIP Press, pp 113-118. ISBN: 0-08-0442897.

Abstract. Manufacturing and logistics service provision enterprises are now moving towards open architectures for integrating their activities with those of their suppliers, customers and partners within wide supply chain networks. Agent-based technology provides a natural way to design and implement such environments.

This paper presents an agent-based approach for optimising logistics and production planning whilst taking into account availability and cost of logistic providers. Emphasis is given on efficient negotiation mechanisms based on extended contracting protocol. The agent infrastructure is being developed within the context of Agentcities, a successful EU funded agent system interoperation initiative.

The proposed approach is demonstrated in a case study concerning optimisation of production planning of a virtual manufacturing enterprise in relation to sub-contracted logistic services used to transport the materials between the enterprise units.

33. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2003. Specifying Reuse Concerns in Agent System Design Using A Role Algebra. In Kowalczyk, R., Müller, J., Tianfield, H. and R. Unland (eds.), Agent Technologies, Infrastructures, Tools, and Applications for e-Services. LNAI 2592, Berlin-Heidelberg: Springer Verlag, p. 121-136. ISBN 978-3-540-00742-5.

Abstract. During the design of an agent system many decisions will be taken that determine the structure of the system for reasons that are clear to the designer and customers at the time. However, when later teams approach the system it may not be obvious why particular decisions have been taken. This problem is particularly acute in the case of designers attempting to integrate complex “intelligent” services from many different service providers. In this paper a mechanism for recording these decisions is described and grouping functionality into Roles which can then be combined using the recorded design knowledge is subsequent development episodes. We illustrate how design decisions can be captured, discuss the semantics of the constructs we introduce and how these abstractions can then be used as the basis of reuse in an extension of the Zeus agent toolkit.

34. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2002. Semi-Automatic Design of Agent Organisations. Proceedings of ACM Symposium in Applied Computing, Special Track on Coordination Models, Languages and Applications, Madrid, Spain, March 10-14, Haddad H. and G. Papadopoulos (eds), ACM Press, p. 306-313. ISBN: 1-58113-445-2.

Abstract. Multi-agent systems can be viewed as organisations of individual agents. Designing an agent organisation is a complex process involving defining the structural relationships among agents, the lines of inter-agent communication, and the agent functionality. Existing approaches to agent organisation design are difficult to apply in practice since they require designers to make decisions while

working at a low level of abstraction.

This paper contributes towards designing agent organisations in a practical and effective manner by proposing to semi-automate the organisational design process. The proposed semi-automatic approach enables agent system designers to reason at a high abstraction level and conveniently re-use previous design decisions. This semi-automatic approach to agent organisation design uses role modelling and a role algebra which captures a number of basic relations among roles. The role algebra's semantics are formally defined using a two-sorted algebra.

The applicability of the semi-automatic agent organisation design approach is demonstrated by an example drawn from a case study involving telephone repair service teams.

Keywords: Software Agents, Multi-Agent Systems, Agent Organisations, Agent-Oriented Software Engineering.

35. **Karageorgos, A**. and H. Karatza, 1997. Performance Issues of Task Routing and Task Scheduling with Resequencing in Homogeneous Distributed Systems, In Proceedings of the 30th Annual Simulation Symposium, April 6-10, Atlanta, IEEE Computer Society Press, p. 182-192. ISBN: 0-8186-7934-4.

Abstract. An important part of a distributed system design is the workload sharing among the processors. This includes par-titioning the arriving jobs into tasks that can be executed in parallel, assigning the tasks to processors and scheduling the task execution on each processor. In many system con-texts jobs must depart in the order of their arrival, hence the resequence problem is involved.

In this paper we examine the efficiency of two task routing strategies — one static and one adaptive — and three non-preemptive task scheduling policies in conjunction with job resequencing before departure.

It is shown that the adaptive task routing strategy outper-forms the static one and that when adaptive task routing is applied, the scheduling strategy affects marginally system performance. The minimum resequence delay is achieved with probabilistic task routing and FCFS task scheduling.

5.3 ΑΡΘΡΑ ΣΕ ΚΕΦΑΛΑΙΑ ΔΙΕΘΝΩΝ ΒΙΒΛΙΩΝ ΜΕ ΚΡΙΣΗ

36. Serugendo, G.D.M., M.P. Gleizes and **A. Karageorgos**, 2011. Self-Organising Systems. In Serugendo, G.D.M., M.P. Gleizes and A. Karageorgos (eds). Self-Organising Software: From Natural to Artificial Adaptation. Natural Computing Series, 2011, Springer Verlag: Berlin, pp. 7-32, ISBN 978-3-642-17347-9.

Abstract. This chapter describes the context of Self-organising Systems. First, it presents examples of diverse self-organising systems taken from natural life—living or non-living. Subsequently, it provides an overview of software applications exhibiting self-organising behaviour.

37. Serugendo, G.D.M., M.P. Gleizes and **A. Karageorgos**, 2011. Self-Organising Systems: History and Definitions. In Serugendo, G.D.M., M.P. Gleizes and A. Karageorgos (eds). Self-Organising Software: From Natural to Artificial Adaptation. Natural Computing Series, 2011, Springer Verlag: Berlin, pp. 33-74, ISBN 978-3-642-17347-9.

Abstract. This chapter discusses the different types of self-organisation and emergence. For each term it discusses its origins and historical evolution and it describes the various definitions given so far with particular emphasis on those concerning software systems. Subsequently, it discusses the main mandatory and optional properties that characterise systems exhibiting self-organisation and emergence. Finally, for both terms it provides operational definitions suitable for use in Computer Science.

38. Gleizes, M. P., V. Camps, **A. Karageorgos** and G.D.M. Serugendo, 2011. Agents and Multi-Agent Systems. In Serugendo, G.D.M., M.P. Gleizes and A. Karageorgos (eds). Self-Organising Software: From Natural to Artificial Adaptation. Natural Computing Series, 2011, Springer Verlag: Berlin, pp. 105-119, ISBN 978-3-642-17347-9.

Abstract. Multi-Agent Systems (MAS) are a well-known and efficient paradigm to deal with complexity and distribution. They are composed of interacting agents evolving in a common environment in order to execute a global task. Numerous works have been done on such systems and since contemporary sotware applications need to exhibit dynamics, openness and robustness, there is a mandatory need for agent-based systems to have the ability to self-adapt. Naturally, self-organisation is introduced in these systems to enable them to get open, robust and adaptive MASs. In this chapter, we present the three main concepts of the MAS domain: agent, MAS and environment, and their properties, and indicate the links between MASs and self-organisation.

39. Serugendo, G.D.M., Foukia, N., Hassas, S., **Karageorgos, A.,** Mostefaoui, S.K., Rana, O.F., Ulieru, M., Valkenaers, P. and C. Van Aart, 2004. Self-Organisation: Paradigms and Applications. In Serugendo, G.D.M., Karageorgos, A., Rana, O.F., and F. Zambonelli (eds). Engineering Self-Organising Systems: Nature-inspired approaches to software engineering. LNAI 2977, Springer:Berlin, p. 1-19, ISBN 978-3-540-21201-0.

Abstract. A self-organising system functions without central con-trol, and through contextual local interactions. Components achieve a simple task individually, but a complex collective behaviour emerges from their mutual interactions. Such a system modifies its structure and functionality to adapt to changes to requirements and to the environment based on previous experience. Nature provides examples of self-organisation, such as ants food foraging, molecules formation, or antibodies detection. Similarly, current software applications are driven by social interactions (negotiations, transactions), based on autonomous entities or agents, and run in highly dynamic environments. The issue of engineering applications, based on the principles of self-organisation to achieve robustness and adaptability, is gaining increasing interest in the software research community. The aim of this paper is to survey natural and artificial complex systems exhibiting emer-gent behaviour, and t to outline the mechanisms enabling such behaviours.

Keywords: Self-organisation, Self-organising applications, Emergence, Collective behaviour, Multi-agent systems.

5.4 ΑΡΘΡΑ ΣΕ ΔΙΕΘΝΗ WORKSHOPS ΜΕ ΚΡΙΣΗ

40. Efthimiou G. and **A. Karageorgos**, 2010. Biodiversity and Ecotouristic management study of the Steni Aesthetic Forest (GR24200002) - Greece. CD-ROM Proceedings of the International Conference Pre10: Protection and Restoration of the Environment X, University of Ioannina (UOI), Ioannina Greece and Stevens Institute of Technology (New Jersey, USA), 5-9 July 2010, Corfu, Greece.

Abstract. The aim of this work is: a) To study the biodiversity of Steni Aesthetic Forest (GR2420002), to track and record problems and to propose protection and ecosystem restoration measures, and b) to propose an ecotouristic sustainable management approach of the aesthetic forest, focused on the creation and organization of ecotouristic infrastructure and the management of the protected area visitors-users. To achieve the second objective, the opinions of the area visitors were recorded using the open interview method. The results reveal that the majority of the visitors (approximately 85%) visit the area on a same day basis. From this percentage, approximately 67.5% are weekend visitors who are interested in the

forest ecosystem of that area. Finally, approximately two third of those questioned indicate problems, they agree on controlled activities, indicate weaknesses which are recorded by our research and demand promotion of the area.

Keywords: Aaesthetic forest, Steni, Ecotourism, Biodiversity, Natura 2000

41. Mostefaoui, K. S, Rana, O. F., Foukia, N., Hassas, S., Serugendo, G.D.M., Van Aart, C. and **A. Karageorgos**, 2003. Self-Organising Applications: A Survey. Engineering Self-Organising Applications, First International Workshop (AOSE 2003), held in conjunction with AAMAS'03, Melbourne, Australia, July 15.

Abstract. A self-organising system is a system that changes its basic structure as a function of its experience and environment. This definition relates to approaches undertaken in multi-agent systems, adaptive control, collective robotics, neural networks, and Grid computing research. The aim of this paper is to survey applications exhibiting emergent behaviour or complex social organisation, and outline the mechanisms enabling such behaviours.

Keywords: Self-Organization, Emergence, Collective Behaviour, Multi-Agent Systems

42. Georgousopoulos, C., Rana, O.F., and **A. Karageorgos,** 2003. Rapid development of FIPA interoperability for an existing legacy MAS. Agent-Oriented Software Engineering IV, Fourth International Workshop (AOSE 2003), held in conjunction with AAMAS'03, Melbourne, Australia, July 15.

Abstract. A system that conforms to FIPA specifications (standards) is a FIPA-compliant system, and can interoperate with any other heterogeneous system which is FIPA-compliant also. The conversion of a MAS into a FIPA-compliant system (i.e. one that adheres to FIPA standards), is important to support interoperability across different MAS. A different approach to conforming a MAS to a FIPA-compliant one, other that the common one of converting the whole system to adhere to FIPA specifications, is the use of the FIPA-compliant gateways[5]. In this paper we extent our work on the FIPA-compliant gateways and we demonstrate the successful interoperability of the gateways based on a MAS utilising an active digital library composed of multi-spectral images of the Earth, as part of the Synthetic Aperture Radar Atlas (SARA).

43. **Karageorgos, A.,** Thompson, S., and N. Mehandjiev, 2002. Specifying Reuse Concerns in Agent System Design Using A Role Algebra. Workshop on Agent Technologies for e-services (ATES 2002), held in conjunction with Net.ObjectDays (NODe 2002). Erfurt, Germany, October 7-10.

Abstract. During the design of an agent system many decisions will be taken that determine the structure of the system, for reasons that are clear to the designer and customers at the time. However, when later teams approach the system it may not be obvious why particular decisions have been taken. This problem is particularly acute in the case of designers attempting to integrate services from many different service providers. In this paper a mechanism for recording these decisions is described. We illustrate how design decisions can be captured and how these abstractions can then be used in as the basis of reuse in an extension of the Zeus agent toolkit.

44. **Karageorgos, A.,** S. Thompson and N. Mehandjiev, 2001. Designing Agent Systems using a Role Algebra, Fourth Workshop of the UK Special Interest Group on Multi-Agent Systems, Oxford, UK, December 13-15, UKMAS SIG.

Abstract. Multi-agent systems can be viewed as organisations of individual agents. Designing an agent organisation is a complex process involving defining the structural relationships among agents, the lines of inter-agent communication, and

the agent functionality. Existing approaches to agent organisation design are difficult to apply in practice since they require the human designer to take design decisions while working at a low level of abstraction.

This paper aims at contributing to semi-automating the agent organisation design process. Towards this aim, a role algebra capturing a number of basic relations among roles is formally defined and its semantics are described based on a two-sorted algebra.

The use of the role algebra is demonstrated by an example from a telephone repair service teams case study.

Keywords: Software Agents, Multi-Agent Systems, Agent-Oriented Software Engineering

5.5 ΑΡΘΡΑ ΣΕ ΕΛΛΗΝΙΚΑ ΣΥΝΕΔΡΙΑ ΜΕ ΚΡΙΣΗ

45. **Καραγεώργος, Α.**, Νταλός, Γ., Παπαδόπουλος, Ι., Γερογιάννης, Β., Ράπτη, Έ., Τρίγκας, Μ., Βαλαή, Α., Σιδεράς, Α., και Βασιλοπούλου, Κ. (2015). e-Furniture: 'Έξυπνη' Δικτύωση Επιχειρήσεων Κατασκευής και Εμπορίας Επίπλων και Ξυλοκατασκευών. 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, pp.192-200.

Περίληψη. Ο διεθνής ανταγωνισμός και οι δυναμικά μεταβαλλόμενες ανάγκες των πελατών οδηγούν τις μικρομεσαίες επιχειρήσεις στην ένταξή τους σε δυναμικά διαμορφωμένα 'έξυπνα' δίκτυα επιχειρήσεων με στόχο την αύξηση της ανταγωνιστικότητάς τους και του μεριδίου τους στην αγορά. Στην παρούσα εργασία παρουσιάζουμε το e-Furniture, ένα σύστημα που βασίζεται στην τεχνολογία των 'ευφυών' πρακτόρων λογισμικού και αναπτύχθηκε για την 'έξυπνη' συνεργασία ενός δικτύου επιχειρήσεων κατασκευής και εμπορίας επίπλων και ξυλοκατασκευών. Τα κύρια χαρακτηριστικά του συστήματος είναι τρία: α) η δημιουργία δεσμών προϊόντων με βάση τα ιδιαίτερα χαρακτηριστικά τους, β) η δημιουργία δεσμών προϊόντων σύμφωνα με τους επιχειρηματικούς κανόνες των επιχειρήσεων και των περιορισμών των πελατών, και γ) η παροχή εξατομικευμένων προτάσεων με βάση τις ιδιαίτερες ανάγκες των πελατών.

Λέξεις κλειδιά: δικτύωση επιχειρήσεων επίπλου, δεσμοί προϊόντων, εξατομικευμένες προτάσεις.

46. Βαλαή, Α., Μπιρμπίλης, Δ., **Καραγεώργος, Α**., και Αδαμόπουλος, Σ. (2015). Πρόβλεψη ιδιοτήτων χαρτιών κατηγορίας κυματοειδούς χαρτονιού από ανακτώμενες ίνες. 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, pp.313-320.

Περίληψη. Αντικείμενο αυτής της εργασίας ήταν ο υπολογισμός μηχανικών ιδιοτήτων κυματοειδούς χαρτονιού με βάση τα χαρακτηριστικά ανακτώμενων ινών από προϊόντα ανακύκλωσης. Με βάση τη στατιστική επεξεργασία των δεδομένων υπολογίστηκαν οι κατάλληλες και σημαντικότερες εξισώσεις - προβλέψεις (γραμμικά μοντέλα) κάποιων βασικών μηχανικών ιδιοτήτων των χαρτιών από ορισμένα χαρακτηριστικά των ινών τους και ορισμένες φυσικές τους ιδιότητες (βάρος-πάχος). Για τα επίπεδα χαρτιά (liners) σχηματίστηκαν αξιόλογα μοντέλα όσον αφορά τη μηχανική αντοχή σε εφελκυσμό και σε σχίση, ενώ για τα κυματοειδή χαρτιά (flutings) για τη μηχανική αντοχή σε θλίψη και σε σχίση.

Λέξεις κλειδιά: κυματοειδές χαρτόνι, φυσικές ιδιότητες, μηχανικές ιδιότητες, ανακτώμενες ίνες.

47. Ράπτη, Έ., Μπιρμπίλης, Δ., **Καραγεώργος, Α.**, και Αδαμόπουλος, Σ. (2015). Χρήση Νευρωνικών Δικτύων για την Πρόβλεψη Ιδιοτήτων Χαρτιών Κατηγορίας

Κυματοειδούς Χαρτονιού από Ανακτώμενες Ίνες. 17ο Πανελλήνιο Δασολογικό Συνέδριο, "Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, pp. 321-328.

Περίληψη. Το κυματοειδές χαρτόνι αποτελεί σήμερα την πιο δημοφιλή πρώτη ύλη για τη μεταφορά αγαθών καθώς το 60% των συσκευασιών μεταφοράς αγαθών κατασκευάζεται από κυματοειδές χαρτόνι. Η προσθήκη ανακτώμενων ινών στον πολτό δυσκολεύει την πρόβλεψη των μηχανικών ιδιοτήτων του χαρτιού και προϊόντων χαρτιού από ανακτώμενους χαρτοπολτούς βάζοντας πολλούς περιορισμούς στην αποτελεσματική χρησιμοποίησή τους. Στην παρούσα εργασία μελετήθηκαν και αναπτύχθηκαν μοντέλα βασισμένα σε νευρωνικά δίκτυα για την πρόβλεψη μηχανικών ιδιοτήτων χαρτιών από ανακτώμενες ίνες (επίπεδο και κυματοειδές μέσο), όπως είναι η αντοχή σε θλίψη και εφελκυσμό, με βάση τα χαρακτηριστικά ανακτώμενων ινών καθώς και φυσικές ιδιότητες του χαρτιού, όπως είναι το ειδικό βάρος και το πάχος. Τα νευρωνικά δίκτυα που αναπτύχθηκαν παράγουν αξιόλογα αποτελέσματα για κάθε κατηγορία χαρτιού με ιδιαίτερα αυξημένους συντελεστές συσχέτισης (R^2>87%).

Λέξεις κλειδιά: κυματοειδές χαρτόνι, φυσικές ιδιότητες, μηχανικές ιδιότητες, ανακτώμενες ίνες, νευρωνικά δίκτυα.

48. Αδαμόπουλος, Σ., Μπιρμπίλης, Δ., Ράπτη, Έ., Βαλαή, Α., και **Καραγεώργος, Α.** (2015). Έλεγχος Ποιότητας Πρώτων Υλών από Ανακτώμενες Ίνες για Παραγωγή Κυματοειδούς Χαρτονιού Συσκευασίας. 17ο Πανελλήνιο Δασολογικό Συνέδριο,"Η Συμβολή της Σύγχρονης Δασοπονίας και των Προστατευόμενων Περιοχών στη Βιώσιμη Ανάπτυξη", Κεφαλονιά, 4-7 Οκτωβρίου, pp. 329-337.

Περίληψη. Η δυσκολία στην πρόβλεψη των ιδιοτήτων και της συμπεριφοράς προϊόντων χαρτιού που παράγονται από ετερογενείς πρώτες ύλες με μεγάλα ποσοστά ανακυκλωμένων ινών βάζει πολλούς περιορισμούς στην καλύτερη και αποτελεσματικότερη χρησιμοποίησή τους σαν υλικά συσκευασίας. Στην παρούσα εργασία παρουσιάζεται το ερευνητικό έργο RF-CORRUG, κύριος στόχος του οποίου είναι η ανάπτυξη μεθόδων πρόβλεψης των ιδιοτήτων και της συμπεριφοράς προϊόντων χαρτιού που προέρχονται από ετερογενείς πρώτες ύλες με μεγάλα ποσοστά ανακυκλωμένων ινών προκειμένου να χρησιμοποιούνται αποτελεσματικότερα από τις επιχειρήσεις σε συσκευασίες κυματοειδούς χαρτονιού. Στο πλαίσιο του έργου πραγματοποιήθηκαν πειραματικές μετρήσεις σε όλες τις διαθέσιμες ποιότητες χαρτιού στην Ελληνική και Ευρωπαϊκή αγορά για την παραγωγή κυματοειδούς χαρτονιού που αφορούν τόσο τη σύνθεσή τους αλλά και τις ιδιότητές τους (φυσικές και μηχανικές). Με βάση τις πειραματικές μετρήσεις, δημιουργήθηκαν μοντέλα παλινδρόμησης και νευρωνικών δικτύων για την πρόβλεψη των σημαντικότερων μηχανικών ιδιοτήτων των χαρτιών από τα χαρακτηριστικά και τα ποσοστά των διαφόρων τύπων ινών που χρησιμοποιήθηκαν στην παραγωγή τους.

Λέξεις κλειδιά: κυματοειδές χαρτόνι, ανακτώμενες ίνες, μοντέλα πρόβλεψης ιδιοτήτων, παλινδρόμηση, νευρωνικά δίκτυα.

49. Γ. Ευθυμίου, **Α. Καραγεώργος** και Γ. Ζιώγας (2011). Διερεύνηση της οικοτουριστικής υποδομής και της επισκεψιμότητας στο Εθνικό Πάρκο Βόρειας Πίνδου. 15ο Πανελλήνιο Δασολογικό Συνέδριο «Δασοπονία πολλαπλών σκοπών και κλιματική αλλαγή - Προστασία και αξιοποίηση φυσικών πόρων», 16-19 Οκτωβρίου 2011, Καρδίτσα. ISBN:978-960-89478-4-9.

Περίληψη. Το Εθνικό Πάρκο της Βόρειας Πίνδου θεσμοθετήθηκε το 2005. Πρόκειται για μια περιοχή με πλούσια βιοποικιλότητα, με τεράστια οικολογική σημασία την οποία επιβεβαιώνουν οι 11 μέχρι σήμερα περιοχές του που ανήκουν στο οικολογικό δίκτυο NATURA 2000, τα 11 Καταφύγια άγριας Ζωής, τα 2 Τοπία Ιδιαίτερου Φυσικού Κάλους, το 1 Βιογενετικό Απόθεμα, οι 4 Σημαντικές Περιοχές

για τα Πουλιά. Το μεγάλο ενδιαφέρον για την περιοχή φαίνεται από την δυναμική στη δημιουργία ξενοδοχειακών καταλυμάτων (τα 2/3 αυτών δημιουργήθηκαν τη δεκαετία 2000-2010) και την ικανοποιητική οικοτουριστική υποδομή με 6 Κέντρα Ενημέρωσης, μεγάλο αριθμό μονοπατιών, παρατηρητηρίων, θέσεων θέας, τη δραστηριότητα 10 εταιριών εναλλακτικού τουρισμού, 6 ορειβατικά καταφύγια και 3 χιονοδρομικά κέντρα.

Η μεγαλύτερη επισκεψιμότητα στο πάρκο παρατηρείται κατά τη χειμερινή περίοδο, οι επισκέπτες του Πάρκου είναι κυρίως Έλληνες (89,4%), νέοι (26-45 ετών) και προέρχονται κυρίως από την Περιφέρεια της Μακεδονίας (38%) και Αττικής (35%). Οι αλλοδαποί επισκέπτες προέρχονται κυρίως από Γερμανία, Ισραήλ, Ιταλία και Αγγλία. Περίπου οι μισοί ξενοδόχοι (55,4%) είναι πρόθυμοι να επιβαρύνουν το τιμολόγιό τους με ένα συμβολικό ποσό (π.χ. 2 €) για την διαχείριση του Πάρκου από το Φορέα Διαχείρισης, το 85,4% αυτών επιθυμεί την ηλεκτρονική δικτύωση των επιχειρήσεών τους, συνεργάζονται κυρίως με τοπικές εταιρίες εναλλακτικού τουρισμού και χρησιμοποιούν στις παρεχόμενες υπηρεσίες εστίασης (85%) τοπικά προϊόντα.

Η Οργάνωση, ο σχεδιασμός (χωρική και χρονική κατανομή της στο πλαίσιο της φέρουσας ικανότητας του πάρκου), η ποιότητα, η πιστοποίηση του οικοτουριστικού προϊόντος και η παρακολούθηση της επισκεψιμότητας, είναι μερικές από τις προκλήσεις που καλείται να αντιμετωπίσει ο Φορέας Διαχείρισης του Πάρκου.

Λέξεις κλειδιά: Εθνικό Πάρκο Β. Πίνδου, Διαχείριση επισκεπτών, Οικοτουρισμός, Οικοτουριστική υποδομή