

THE UNIVERSITY OF BRITISH COLUMBIA
Curriculum Vitae for Faculty Members

Date: April 29, 2020 Initials: D.G.

1. **SURNAME:** Granot **FIRST NAME:** Daniel
MIDDLE NAME(S):
2. **DEPARTMENT/SCHOOL:** Operations & Logistics
3. **FACULTY:** Sauder School of Business
4. **PRESENT RANK:** The Affiliates Professor of Management **SINCE:**
5. **POST-SECONDARY EDUCATION**

University or Institution	Degree	Subject Area	Dates
Dalhousie University	Post Doctorate	Mathematics	May 1975
The University of Texas at Austin	PhD	Interdisciplinary – Business Administration, Mathematics and Computer Science	May 1974
Technion – Israel Institute of Technology	M.Sc.	Operations Research	July 1972
Technion – Israel Institute of Technology	B.Sc.	Industrial Engineering (Cum Laude)	1970

Special Professional Qualifications

6. **EMPLOYMENT RECORD**

(a) *Prior to coming to UBC*

University, Company or Organization	Rank or Title	Dates
Simon Fraser University	Assistant Professor	1976-1978
University of British Columbia	Visiting Assistant Professor	1975-1976
Dalhousie University	Post Doctorate Fellow	1974-1975

(b) *At UBC*

Rank or Title	Dates
Acting Chairman – Management Science Division	January – April 1982
Chairman – Management Science Division	April 1982 – July 1987; July 1998 – June 1999

APT Committee – Chair, Associates and Tenure, Full	1990/91, 1991/92
APT Committee – Member, Associates & Tenure	2007 – 2010; 1985 – 1986
Special APT Committee to evaluate D. Wehrung	1988
APT – Member, Associates & Tenure and Full	1986/7, 1987/8, 1988/89
Director, PhD Program	2000 - 2012

(c) Date of granting of tenure at U.B.C.: July 1, 1983

7. LEAVES OF ABSENCE

University, Company or Organization at which Leave was taken	Type of Leave	Dates
Department of Operations Research, Stanford University		Sept. 1, 1981 – Dec. 31, 1981
Faculty of Management, Tel Aviv University		Jan. 1 1984 – Dec. 31, 1984
Department of Statistics, Tel Aviv University		July 1, 1989 – June 30, 1990
Kellogg School of Management, Northwestern University		July 1, 1994 – June 30, 1995
		July 1, 1999 – June 30, 2000
Marshall School of Busiess, Univ. of Southern California		January 1, 2014 – June, 2014
Department of MS&E, Stanford University		January 1, 2015 – June, 2015

8. TEACHING

(a) Areas of special interest and accomplishments

(b) Courses Taught at UBC

Session	Course Number	Scheduled Hours	Class Size	Hours Taught			
				Lectures	Tutorials	Labs	Other
	COMM 211						
	COMM 212						
	COMM 517						
	COMM 518						
	COMM 612						
	COMM 311						
	COMM 290						

	COMM 412						
	COMM 515						
	COMM 399						
	COMM 204						
	COMM 612						

(c) *Graduate Students Supervised*

Student Name	Program Type	Year		Supervisory Role (supervisor, co-supervisor, committee member)
		Start	Finish	
A. Warburton	PhD		1981	Supervisor (with I. Vertinsky)
W. Vaesson	M.Sc.		1981	Supervisor (with F. Granot)
B.G. Raghavendra	PhD		1982	Co-supervisor (with D. Atkins)
M. Hojati	PhD		1987	
D. Skorin Kapov	PhD		1989	
Weiping Zhu	PhD		1995	Co-supervisor (with F. Granot)
Li Liu	PhD		1996	Co-supervisor (with S. Brumelle)
Greys Sosic	PhD		2002	Co-supervisor (with F. Granot)
Shuya Yin	PhD		2005	Co-supervisor (with F. Granot)
Benny Mantin	PhD		2008	Co-supervisor (with F. Granot)
Dror Hermel	PhD		2013	Co-supervisor (with M. Nagarajan)
Sanjith Gopalakrishnan	PhD	2014		Co-supervisor (with F. Granot)
Ying Liu	M.Sc.		2004	
Richard Fung	M.M.		2004	

(d) *Continuing Education Activities*

(e) *Visiting Lecturer (indicate university/organization and dates)*

- Visiting Scholar, Department of MS&E, Stanford University, (January – April, 2015)
- Visiting Scholar, Marshall School of Business, USC, (January – May, 2014)
- Visiting scholar, MEDS, Northwestern University, (January - March, 1995.)
- Visiting Professor, Department of Statistics, Tel -- Aviv University (February – March, 1990)
- Visiting Professor, Department of Operations Research, Stanford University (Summer 1987)
- Visiting Professor, Department of Operations Research, Stanford University (Summer 1986)
- Visiting Professor, Department of Operations Research, Stanford University (Summer 1985)
- Visiting Professor, Faculty of Management, Tel – Aviv University (January – June 1984).
- Visiting Scholar, Department of Operations Research, Stanford University (Summer 1984).
- Visiting Associate Professor, Department of Operations Research, Stanford University (Summer 1983).
- Visiting Associate Professor, Department of Operations Research, Stanford University (Summer 1982)
- Visiting Associate Professor, Department of Operations Research, Stanford University (Summer and Fall 1981)
- Visiting Associate Professor, Department of Operations Research, Stanford University (Summer 1979)
- Visiting Associate Professor, Department of Operations Research, Stanford University (Summer 1978)
- Visiting Faculty, IBM Research Centre, Yorktown Heights, N.Y. (May – June 1977)
- Summer Research Institute Fellow, Department of Mathematics, University of Montreal (Summer 1975)

(f) *Other***9. SCHOLARLY AND PROFESSIONAL ACTIVITIES**(a) *Areas of special interest and accomplishments*

- (i) Game Theory and Application
- (ii) Discrete Optimization

(iii) Supply Chain Management

(b) *Research or equivalent grants (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC))*

Granting Agency	Subject	COMP	\$ Per Year	Year	Principal Investigator	Co-Investigator(s)
NSERC	Operating Grant			Since 1976		
UBC	Humanities and Social Sciences Grant			Since 1979 (with exception of 1984 when on sabbatical)		
SSHRC	Leave fellowship			1984 (declined in 1986)		
UBC	Killam Faculty Research Fellowship			1989		

(c) *Research or equivalent contracts (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC)).*

Granting Agency	Subject	COMP	\$ Per Year	Year	Principal Investigator	Co-Investigator(s)

(d) *Invited Presentations*

a) Mathematical Programming Conferences (2018, 2015, 2012, 2006, 2003, 2000, 1997, 1994, ...)

b) INFORMS Conferences (essentially attended all meetings in the last forty years, and an invited presentation was either delivered by myself or a co-author)

(e) *Other Presentations*

(f) *Other*

(g) *Conference Participation (Organizer, Keynote Speaker, etc.)*

- Co-chair sponsored clusters, INFORMS International conference, Taipei to take place June 2018.
- Cluster Program Co-Chair, INFORMS meeting, Seattle, November 2007
- Invited Sessions co-chair, INFORMS 2007.
- Program co-chair, ORSA/TIMS Conference, Vancouver, May 1989.
- On the organizing committee – International conference on Discrete Optimization (Vancouver, BC, August 1977).

10. SERVICE TO THE UNIVERSITY

(a) *Memberships on committees, including offices held and dates*

(b) *Other service, including dates*

11. SERVICE TO THE COMMUNITY

(a) *Memberships on scholarly societies, including offices held and dates*

INFORMS; Mathematical Programming; Game Theory society, MSOM

(b) *Memberships on other societies, including offices held and dates*

(c) *Memberships on scholarly committees, including offices held and dates*

(d) *Memberships on other committees, including offices held and dates*

(e) *Editorships (list journal and dates)*

- Associated editor, International Journal of Game Theory, 1999-2001.
- Associated editor, Networks, 2006-2013

(f) *Reviewer (journal, agency, etc. including dates)*

- Mathematical Programming
- Management Science
- Operations Research
- Networks
- Discrete Applied Mathematics
- Naval Research Logistics
- Mathematics of Operations Research
- International Journal of Game Theory
- Games and Economic Behavior
- European Journal of Operational Research

(g) *External examiner (indicate universities and dates)*

(h) *Consultant (indicate organization and dates)*

(i) *Other service to the community*

12. AWARDS AND DISTINCTIONS

(a) *Awards for Teaching (indicate name of award, awarding organizations, date)*

Talking Stick Award, Sauder School of Business, 2002

(b) *Awards for Scholarship (indicate name of award, awarding organizations, date)*

(c) *Awards for Service (indicate name of award, awarding organizations, date)*

(d) *Other Awards*

INFORMS FELLOW (October, 2012)

13. **OTHER RELEVANT INFORMATION** (Maximum One Page)

THE UNIVERSITY OF BRITISH COLUMBIA
Publications Record

SURNAME: Granot

FIRST NAME: Daniel

Initials: D.G.

MIDDLE NAME(S):

Date: April 29, 2020

1. REFEREED PUBLICATIONS

(a) *Journals*

- D. Granot, F. Granot and A. Lemoine, "Approximations for a Service System with Non – Independent Interarrival Times," Operations Research, Vol. 13, No.3 (1975), pp. 162 – 166.
- Charnes, D. Granot and F. Granot, "On Improving Bounds for Variables in Linear Integer Programs by Surrogate Constraints," INFOR, Vo1.13, No.3 (1975), pp. 260 – 269.
- Charnes, D. Granot and F. Granot, "A Note on Explicit Solution in Linear Fractional Programing," Naval Research Logistics Quarterly, Vol. 23, No. 1 (1976), pp. 161 – 167.
- Charnes, D. Granot and F. Granot, "An Algorithm for Solving General Fractional Interval Programming Problems," Naval Research Logistics Quarterly, Vol. 23, No. 1 (1976), pp. 53 – 65.
- Charnes and D. Granot, "Coalition and Chance – Constrained Solutions to N – Person Games. I: The Satisficing Probabilistic Nucleolus," SIAM of Applied Mathematics, Vol. 31, No.2, (1976), pp. 358 – 367.
- D. Granot and F. Granot, "On Solving (0,1) Fractional Programs by Implicit Enumeration," INFOR, Vol. 14, (1976), pp. 241 – 249.
- D. Granot, "Cooperative Games in Stochastic Characteristic Function Form," Management Science, Vo1.23, (1977), pp. 621 – 630.
- D. Granot and F. Granot, "On Solving Integer and Mixed Integer Fractional Programming Problems," Annals of Discrete Mathematics, Vo1.1, (1977), pp. 221 – 231.
- Charnes, D. Granot and F. Granot, "A Primal Algorithm for Interval Linear Programming Problems," Linear Algebra and Its Applications, Vo1.17, (1977), pp. 65 – 78.
- Charnes, D. Granot and F. Granot, "On Intersection Cuts for Interval Integer Linear Programming Problems," Operations Research, Vo1.25, No.2, (1977), pp. 352 – 355.
- Charnes and D. Granot, "Coalitional and Chance – constrained Solutions to N – Person Games II: Two Stage Solutions," Operations Research, Vo1.25, (1977), pp. 623 – 630.
- Charnes, D. Granot and F. Granot, "On Solving Linear Fractional Interval Programming Problems," Cahiers du Centre d'etudes de Recherche Operationnelle, (1978), pp. 45 – 57.
- D. Granot, F. Granot and J. Kallberg, "Covering Relaxation for Positive 0 – 1 Polynomial Programs," Management Science, Vol. 25, (1979), pp. 264 – 273.

- D. Granot and F. Granot, "Generalized Covering Relaxation for (0,1) Programs," Operations Research, Vo1.28, No.6, (1980), pp. 1442 – 1450.
- D. Granot and G. Huberman, "On Minimum Cost Spanning Tree Games," Mathematical Programming, Vo1.21, No.1, (1981), pp. 1 – 18.
- D. Granot and G. Huberman, "On the Relationship between Convex Games and Minimum Cost Spanning Tree Games: A Case for Permutationally Convex Games" SIAM Journal on Algebraic and Discrete Methods, Vol. 3, (1982), pp. 288 – 292.
- D. Granot, F. Granot and E.L. Johnson, "Duality and Pricing in Multiple Right – Hand Choice Linear Programming Problems", Mathematics of Operations Research, Vo1.7, No.2, (1982), pp. 545 – 556.
- D. Granot, F. Granot and W. Vaessen, "An Accelerated Covering Relaxation Algorithm for Solving Positive Polynomial 0 – 1 Programming Problems", Mathematical Programming, Vo1.22, No.3, (1982), pp. 350 – 357.
- D. Granot and G. Huberman, "On the Core and Nucleolus of Minimum Cost Spanning Tree Games", Mathematical Programming, Vo1.29, No.3, (1984), pp. 323 – 348.
- D. Granot and F. Granot, "Minimal Covers, Minimal Sets and Canonical Facets of the Posynomial Knapsack Polytope," Discrete Applied Mathematics, Vo1.9 (1984), pp. 171–185.
- D. Granot, "A Note on the Room – Mates Problem and a Related Revenue Allocation Problem," Management Science, Vo1.30, No.5, (1984), pp. 633 – 643.
- D. Granot, "A New Exchange Property for Matroids and Its Application to Max – Min Problems", Zeitschrift fur Operations Research, Vo1.48 (1984), pp. 41 – 45.
- D. Atkins, D. Granot and B.G. Raghavendra "Applications of Mathematical Programming to the Plywood Design and Manufacturing Problem," Management Science, Vo1.30, (1984), pp. 1424 – 1441.
- R. Engelbrecht – Wiggans and D. Granot, "On Market Prices in Linear Production Games," Mathematical Programming, Vo1.32 (1985), pp. 366 – 370.
- D. Granot, "A Generalized Linear Production Model: A Unifying Model," Mathematical Programming, Vo1.34 (1986), pp. 212 – 222.
- D. Granot, "On the Role of Cost Allocation in Locational Problems," Operations Research, Vol. 35 (1987), pp. 234 – 248.
- D. Granot and M. Hojati, "On Cost Allocation in Communication Networks", Networks, Vol. 20 (1990), pp. 209 – 229.
- D. Granot and U. Rothblum, "The Pareto Set of the Partition Bargaining Problem," Games and Economic Behavior, 3, (1991), pp. 163 – 182.

- D. Granot and D. Skorin – Kapov, "NC Algorithms for Recognizing Partial 2 – Trees and 3 – Trees," SIAM of Discrete Mathematics, 4, (1991), pp. 342 – 354.
- D. Granot and D. Zuckerman, "Optimal Sequencing and Resource Allocation in R & D Projects," Management Science, 37, (1991), pp. 140 – 156.
- D. Granot and F. Granot, "On Some Network Flow Games", Math of O.R., Vol. 17, (1992), pp. 792 – 841.
- D. Granot and F. Granot, "Computational Complexity of a Cost Allocation Approach to a Fixed Cost Spanning Forest Problem", Vol. 17, Math of O.R., (1992), pp. 765 – 780.
- D. Granot and D. Zuckerman, "Training and Job Search in the Labour Market", O.R. Letters, 11, (1992), pp. 87 – 92.
- S. Brumelle and D. Granot, "The Repair – Kit Problem Revisited", Operations Research, 41, (October 1993), pp. 994 – 1106.
- D. Granot and D. Skorin – Kapov, "On Some Optimization Problems in K – Trees and Partial K – Trees", Discrete Applied Mathematics, 48, (1994), pp. 129 – 145.
- D. Granot, M. Maschler, G. Owen and W.R. Zhu, "The Kernel/Nucleolus of a Standard Tree Enterprise", International Journal of Game Theory, Vol. 25, (1996), pp. 219 – 244.
- D. Granot and M. Maschler, "The Reactive Bargaining Set: Structure, Dynamics and Extension to NTU Games", International Journal Game Theory, Vol. 26, (1997), pp. 75 – 96.
- D. Granot, F. Granot and W.R. Zhu, "The Reactive Bargaining Set of Some Flow Games and Superadditive Simple Games," International Journal of Game Theory, Vol. 26, (1997), pp. 207 – 214.
- S. Brumelle, D. Granot, M. Halme and I. Vertinsky, "A Tabu Search Algorithm for Solving the Forest Harvest Scheduling Problem with Green – up Constraints", special issue of European Journal of Operations Research on Tabu Search, edited by Fred Glover, 106 (1998), pp. 408 – 424.
- D. Granot, F. Granot and W.R. Zhu, "On Characterization Sets for the Nucleolus", International Journal of Game Theory, 27, (1998), pp. 359 – 374.
- D. Granot and M. Maschler, "Spanning Network Games", International Journal of Game Theory, 27, (1998), pp. 467 – 500.
- D. Granot, H. Hamers and S. Tijs, "On Some Balanced, Totally Balanced and Submodular Delivery Games", Mathematical Programming, 86, (1999), pp. 355 – 366
- D. Granot, F. Granot and W.R. Zhu, "Natural Submodular Digraphs and Forbidden Digraph Configurations", Discrete Applied Mathematics, 100, (2000), pp. 67 – 84.
- D. Granot, M. Maschler and J. Shalev, "Unanimity in Voting for Voters", International Game Theory Review, 2, (2000), pp. 117 - 127.

- T. Eilam Tsoreff, D. Granot, F. Granot and G. Susic, "On the Vehicle Routing Problem with Pickups and Deliveries," Discrete Applied Mathematics, 116, (2002), pp. 193 – 229.
- D. Granot, J. Kuipers and S. Chopra, "Cost Allocation for a Tree Network with Heterogeneous Customers", Math of OR. 27, (2002), pp. 647 – 661.
- D. Granot, M. Maschler and J. Shalev, "Voting for Voters: the Unanimity Case," International Journal of Game Theory, 31, (2002), pp. 155 – 202.
- D. Granot and G. Susic, "A Three Stage Model for a Decentralized System of Retailers", Operations Research, 51, (2003), pp. 771 – 784.
- D. Granot and H. Hamers, "On the Equivalence between Some Local and Global Chinese Postman and Travelling Salesman Graphs", Discrete Applied Mathematics, 134, (2004), pp. 67 – 76.
- D. Granot and G. Susic, "Formation of Alliances in Internet-Based Supply Exchanges", Management science, 51, (2005), pp. 92 – 105.
- S. Brumelle, D. Granot and L. Liu, "Ordered Optimal solutions and Parametric Minimum Cut Problems", Discrete Optimization, 2, (2005), pp. 123 – 134.
- D. Granot and S. Yin, "On the Effectiveness of Returns Policies in the Price – Dependent Newsvendor Model", Naval Research Logistics, 52, (2005), pp. 765 – 779.
- D. Granot and S. Yin, "On Sequential Commitment in the Price – Dependent Newsvendor Model", European Journal of Operational Research, 177, (2007), pp. 939-968.
- D. Granot and S. Yin, "Price and Order Postponement in a Decentralized Newsvendor Model with Multiplicative and Price Dependent Demand", Operations Research, 56, 2008, pp. 121-139.
- D. Granot and S. Yin, "Competition and Cooperation in a Multi-Manufacturer Single-Retailer Supply Chain with Complementary Products", Management Science, 54, 2008, pp. 733-747.
- "On the reactive bargaining set for cooperative games", International Journal of Game Theory, 39 (2010), pp. 163-170
- D. Granot, F. Granot and T. Raviv, "On competitive location in a network with decreasing demand intensity", European Journal of Operational Research, Volume 205, September 2010, pp. 301-312
- D. Granot, Herbert Hamers, Jeroen Kuipers, and Michael Maschler, "On Chinese Postman Games Where Residents in Each Road Pay the Cost of Their Road", Games and Economic Behavior, 72, (2011), pp. 427–438.

- B. Mantin , D. Granot, F. Granot, “Dynamic Pricing Under First Order Markovian Competition”, Naval Research Logistics, 58, (2011), pp. 608–617.
- D. Granot and F. Granot, “On graphs which can or cannot induce Chinese Postman games with a non-empty core”, Discrete Applied Mathematics, 160, 2012, pp. 2054-2059.
- M. Dror, D. Granot, and M. Yaeger-Dror, “Speech variation, utility and game theory”, Language and Linguistics Compass, 7, (November, 2013), pp. 561-579
- D. Granot and Y. Gerchak, “An auction with positive externality and possible application for overtime rules in football, soccer, and chess”, Operations Research Letters, 42, (2014), pp. 12-15
- M. Dror, D. Granot, and M. Yaeger-Dror, “Teaching and Learning guide for Speech variation, utility and game theory”, Language and Linguistics Compass, Volume 8, Issue 6, (2014), pp. 211 – 270.
- D. Granot, F. Granot, and Harshavardhan Ravichandran, “The k-centrum Chinese Postman Delivery Problem and Cost Allocation Game”, Discrete Applied Mathematics, 179, (2014), 100-108.
- Ciuera-Infosino, I. D. Granot, F. Granot and A. F. Veinott, “Multi-Commodity Production Planning: Quantitative Analysis and Applications”, Manufacturing & Service Operations Management, Vol 17, (2015), pp. 589-607.
- Sheng, L., D. Granot, W. T. Huh, M. Nagarajan, “A Dynamic Price-Only Contract: Exact and Asymptotic Results”, Operations Research Letters, Vol 45, (2017), pp. 620–624.
- B. Mehmet, R. Fung, D. Granot, F. Granot, C. Hall, B. Kluczny, “Evaluation of a Centralized Transportation Assistance System for Passengers with Special Needs at a Canadian Airport”, Int. J. of Shipping and Transport Logistics (IJSTL), Vol. 10 (2018), pp. 355 – 376.
- Ciuera-Infosino, D. Granot, F. Granot and A. F. Veinott, “Monotonicity and conformality in multicommodity network-ow problems”, Networks, Vol 74 (2019), pp. 302-319
- S. Gopalakrishnan, D. Granot, F. Granot, G. Sobic, and Hailong Cui, “Incentives and Emission Responsibility Allocation in Supply Chains”, accepted to Management Science (May, 2020)
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(b) **Conference Proceedings**

- Charnes, A. and D. Granot, "Prior Solutions: Extensions of Convex Nucleus Solutions to Chance – Constrained Games," Proceedings of the Computer Science and Statistics Seventh Annual Symposium at Iowa State University, (1973), pp.323 – 331.
- D. Granot and F. Granot, "On Cost and Revenue Allocation Problems Arising in Mathematical Programming Models," Proceedings of the 6th Mathematical Programming Symposium, Japan, (1985), pp.121 – 146.

- D. Granot and F. Granot, "A Survey on Cost and Revenue Allocation Problems" in Systems and Management Science by Extremal Methods, edited by Fred Phillips and John Rousseau, (1992), pp. 427 – 459.
- D. Granot, "On the Reduced Game of Some Linear Production Games", Festschrift in honour of Michael Maschler 65th birthday, ed., N. Megiddo (1993), pp. 1 – 15.
- A Gautier, D. Granot and F. Granot, "Qualitative Sensitivity Analysis" in Recent Advances in Sensitivity Analysis and Parametric Programming, T. Gal and H. Greenberg (eds.), Kluwer Academic Publisher (1997).

(c) **Work submitted (including publisher and date of submission)**

- S. Gopalakrishnan, D. Granot and F. Granot, "Consistent Allocation of Emission Responsibility in Fossil Fuel Supply Chains", 3rd revision submitted Management Science (January, 2020)

(d) **Work in progress**

- D. Granot, F. Granot and G. Sobic, "Allowance Trading in Cap-and-Trade Programs".
- W. Zhang, D. Ding and D. Granot, "A Centralized Allocation Mechanism for Public Housing".
- S. Gopalakrishnan, D. Granot and F. Granot, "Bike-Sharing Systems: An Analysis of Operational Strategies".
- D. Granot and E. Hanany, "Subgame perfect consistent stability", being revised for submission to Math. Of OR
- D. Hermel, Daniel Granot, Elena Katok, and Mahesh Nagarajan, "Bargaining in Supply Chains with a Single Pivotal Player".

7. **OTHER WORKS**

TECHNICAL REPORTS

- B. Mantin and D. Granot, "Dynamic pricing in the presence of store-switching consumers".
- D. Granot, "On Generalized Price – Only Contracts in the Newsvendor Model".
- D. Granot, F. Granot and W.R. Zhu, "Circular Network Games".
- D. Granot and D. Skorin – Kapov, "A Fixed Cost Spanning Forest Problem in Series Parallel Networks."
- Charnes and D. Granot, "Constrained Non – Cooperative Von Neumann Ratio Games".
- Claus and D. Granot, "Game Theory Application to Cost Allocation for a Spanning Tree".
- D. Granot and G. Huberman, "Game Theory Application to a Class of Cost Allocation Problems".
- D. Granot and F. Granot, "Optimal Scheduling for an Outpatient Clinic".