

o.Univ.Prof.Dr. Gustav Feichtinger

## CURRICULUM VITAE

### Personal Data

Date of Birth: July 14, 1940

Place of Birth: Wiener Neustadt, Austria

Marital Status: Married with Ingrid Feichtinger, two daughters: Susanne and Evelyn

### Academic Data and Professional Experience

University of Vienna (Mathematics and Physics) 1958 - 1963

Ph.D. in Mathematics (Algebra) 1963

IBM Research Laboratory Vienna 1964 - 1965

University of Bonn (Statistics and Operations Research, Assistant and Associate Professor) 1965 - 1972

Habilitation in Statistics (Demography) 1970

University of Technology Vienna (Full Professor for Operations Research) since 1972,  
Head of the Research Group ORDYS (Operations Research and Nonlinear  
Dynamical Systems) at the Institute for Mathematical Methods in Economics

Head of the Division for Theoretical Demography at the Institute of Demography of the  
Austrian Academy of Sciences from 1977-2002

Part-time position at the International Institute for Applied Systems Analysis (IIASA)  
1992 - 2004

Vienna Institute for Demography of the Austrian Academy of Sciences, Head of  
Division for Population Economics since 2002

Corresponding Member of the Austrian Academy of Sciences since 2001

Honorary Doctorate of the Faculty for Economics of the University of Magdeburg in 2007

### Research Interests

Applications of optimal control theory and dynamic games in economics and OR/MS  
Nonlinear dynamic modeling of socio-economic processes

Economics of 'deviant behaviour': addiction, corruption, violence, terrorism

Dynamic cost-benefit analysis in public policy, epidemiology (illicit drug dynamics,  
HIV)

Demography population mathematics, demo-economics

Health economics

Social interactions, peer groups and networks

### Memberships

Austrian Society for Mathematics (ÖMG)

Austrian Society for Operations Research (ÖGOR)

European Society for Population Economics (ESPE)

German Society for Operations Research (GOR)

International Society for Dynamic Games (ISDG)

### Associate Editorships

Central European Journal of Operations Research (CEJOR)

International Abstracts in Operations Research (IAOR)

International Game Theory Review (IGTR)

Journal of Optimization Theory and Application (JOTA)

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o.Univ.Prof.Dr. Gustav Feichtinger

## LEBENSLAUF

### Persönliche Daten

Geburtsdatum: 14. Juli 1940

Geburtsort: Wiener Neustadt, Österreich

Familienstand: verheiratet mit Ingrid Feichtinger, 2 Töchter: Susanne und Evelyn

### Akademische und berufliche Daten

Universität Wien (Mathematik und Physik) 1958 - 1963

Lehramt (Mathematik und Physik) 1962

Dr.phil. (Mathematik) 1963

IBM Forschungslabor Wien 1964 - 1965

Universität Bonn

Assistent und H3-Professor für Statistik und Operations Research 1965 - 1972

Habilitation (Statistik und Unternehmensforschung) 1970

Technische Universität Wien

Professor für Operations Research seit 1972

Leiter der Abteilung für Formale Demographie am Institut für Demographie der  
Österreichischen Akademie der Wissenschaften 1977 - 2001

Teilzeit-Tätigkeit am International Institute for Applied Systems Analysis (IIASA) 1992  
- 2004

Leiter der Forschungsgruppe "Population Economics" am Vienna Institute of  
Demography (VID) der Österreichischen Akademie der Wissenschaften seit  
2002

Korrespondierendes Mitglied der Österr. Akademie der Wissenschaften seit 2001  
Ehrendoktorat der Fakultät für Ökonomie der Universität Magdeburg 2007

### Forschungsinteressen

Demographie, insbes. Populationsdynamik und Bevölkerungsökonomie

Nichtlineare Modellierung sozio-ökonomischer Prozesse

Anwendungen der Kontrolltheorie auf ökonomische Probleme

Operations Research, insbes. Dynamische Optimierung und Spiele

Ökonomie "abweichenden Verhaltens" (economics of crime), insbes. Sucht, Dynamik  
und Kontrolle des Drogenkonsums, Korruption

Soziale Interaktion und epidemische Prozesse (HIV / AIDS)

### Wissenschaftliche Gesellschaften

Austrian Society for Mathematics (ÖMG)

Austrian Society for Operations Research (ÖGOR)

European Society for Population Economics (ESPE)

German Society for Operations Research (GOR)

International Society for Dynamic Games (ISDG)

### Associate Editorships

Central European Journal of Operations Research (CEJOR)

International Abstracts in Operations Research (IAOR)

International Transactions in Operational Research (ITOR)

Journal of Optimization Theory and Application (JOTA)

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**List of Publications**  
**Gustav Feichtinger**

\* Book or Journal Issue

**1967**

Über die Anzahl aller nichtisomorphen transitiven Automaten von Primzahlordnung.  
*Elektronische Informationsverarbeitung und Kybernetik* **3**, 275-282.

Beiträge zur Theorie abstrakter Automaten. *Elektronische Datenverarbeitung* **8**, 361-366.

Über isomorphe Unterautomaten in abstrakten Automaten. *Elektronische Datenverarbeitung* **9**, 411-415.

**1968**

Der Quotientenautomat nach einem direkten Faktor einer Automorphismengruppe.  
*Computing* **3**, 1-8.

Zur Theorie abstrakter stochastischer Automaten. *Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete* **9**, 341-356.

Automatentheorie und dynamische Programmierung. *Elektronische Informationsverarbeitung und Kybernetik* **4**, 347-352.

Eine automatentheoretische Deutung des einelementigen Lernmodells der Stimulus Sampling Theorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 3-19.

Ein automatentheoretischer Zugang zu Lernprozessen. *Kybernetik* **5**, 85-88.

Zur mathematischen Lerntheorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 39-47.

**1969**

Stochastische Automaten als Grundlage linearer Lernmodelle. *Statistische Hefte* **10**, 5-21.

Optimale Darbietungen (Lernstrategien) zweier Items in der statistischen Lerntheorie.  
*Elektronische Informationsverarbeitung und Kybernetik* **5**, 109-125.

Ein Markoffsches Lernmodell für Zwei-Personen-Spiele. *Elektronische Datenverarbeitung* **7**, 322-325.

Anwendungen der Automatentheorie auf Lernprozesse. 2. Internationaler Kongreß  
*Datenverarbeitung im europäischen Raum*, 17-21.

Endliche stochastische Automaten als Modelle in den Verhaltenswissenschaften.  
*Seminarbericht 17 des Instituts für Theorie der Automaten und Schaltnetzwerke, GMD Bonn*.

**1970**

\* *Lernprozesse in stochastischen Automaten*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **24**, Springer, Berlin.

Einige Resultate aus der Bevölkerungsmathematik. In: R. Henn (Ed.), 'Operations Research Verfahren VIII'. Hain, Meisenheim, 89-106.

Über ein Entscheidungsproblem in der Erziehungsplanung. *Unternehmensforschung* **14**, 140-151.

Kybernetische Begriffe und Arbeitsweisen in der Lerntheorie. *Zeitschrift für experimentelle und angewandte Psychologie* **17**, 37-51.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen. *Statistische Hefte* **12**, 14-21.

BAYES-Automaten. *Elektronische Informationsverarbeitung und Kybernetik* **6**, 371-379.

Über Automatenmodelle in der statistischen Lerntheorie. *Kybernetik* **6**, 237-242.

Gekoppelte stochastische Automaten und sequentielle Zwei-Personen-Spiele. *Unternehmensforschung* **14**, 249-258.

Bemerkungen zum Thema Astrologie und Statistik. *Philosophia Naturalis* **12**, 104-115.

## 1971

\* *Stochastische Modelle demographischer Prozesse*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **44**, Springer, Berlin.

"Wahrscheinlichkeitslernen" in der statistischen Lerntheorie. *Metrika* **18**, 35-55.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen bei Ungewißheit. *Statistische Hefte* **12**, 14-21.

Stochastische Automaten mit stetigem Zeitparameter. *Angewandte Informatik* **4**, 156-164.

Über Lernprozesse mit variabler Transitionsstruktur in Entscheidungssituationen bei Ungewißheit. *Jahrbücher für Nationalökonomie und Statistik* **186**, 14-28.

Absorbing Markov chains in population mathematics. *Proceedings of the 38th Session of the International Statistical Institute*, Washington, D.C.

Markoff-Modelle zur sozialen Mobilität. *Jahrbuch für Sozialwissenschaft* **22**, 300-316.

Automatentheoretische Lernmodelle. *Umschau in Wissenschaft und Technik* **71**, 166.

Bevölkerungswissenschaft vor neuen Problemen. *Umschau in Wissenschaft und Technik* **71**, 596-597.

## 1972

Über Sinn und Ziel der Kybernetik. In: J. Meurers (Hrsg.), 'Philosophia naturalis 13'. Hain, Meisenheim, 185-190.

Über die Kovarianzen von Maximum Likelihood-Schätzungen gewisser Parameter bei multiplen Dekrementtafeln. *Mathematische Operationsforschung und Statistik* **3**, 217-226.

Über ein N-elementiges Modell der Reiz-Stichproben-Theorie mit stetigem Zeitparameter und zwei Antwortklassen. *Metrika* **18**, 94-109.

Stochastische Dekrementmodelle der Bevölkerungsstatistik. *Biometrische Zeitschrift* **14**, 106-125.

Zur Bayes-Analyse statistischer Entscheidungsprobleme. *Zeitschrift für Betriebswirtschaft* **7**, 42. Jg.

Neue Entwicklungen der formalen Demographie I. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **5**, 23-29.

Neue Entwicklungen der formalen Demographie II. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **6**, 53-64.

Stochastische Prozesse im Lichte ihrer Anwendungen. *Angewandte Informatik* **3**, 104-114.

### 1973

\* *Bevölkerungsstatistik*. de Gruyter, Berlin.

Markovian models for some demographic processes. *Statistische Hefte* **4**, 311-334.

Bemerkungen über lineare Modelle der Populationsdynamik. In: R. Henn (Ed.), '*Operations Research-Verfahren XV*'. Hain, Meisenheim, 40-62 (with M. Deistler).

On the linear stochastic model in population dynamics. *Proceedings of the 39th Session of the International Statistical Institute* **4**, 301-306 (with M. Deistler).

### 1974

OR-Modelle sozio-demographischer Prozesse. In: P. Gessner et al., '*Proceedings in Operations Research 3*'. Physica, Würzburg, 195-229.

Bemerkungen über stochastische Modelle der Straffälligkeit. *Allgemeines Statistisches Archiv* **58**, 198-221.

Einblicke in bevölkerungsmathematische Modelle und deren Anwendungsmöglichkeiten. *Jahrbuch für Sozialwissenschaft* **25**, 86-105.

Stochastische Modelle des Manpower Planning. *Antrittsvorlesung an der TH Wien*, Nr. **42**, TH Wien.

Von der Bevölkerungsstatistik zur demographischen Forschung. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **13**, 15-36.

Nullwachstum der Bevölkerung frühestens in 100 Jahre. *Umschau in Wissenschaft und Technik* **74**, 551-552.

The linear model formulation of a multitype branching process applied to population dynamics. *Journal of the American Statistical Association* **69**, 662-664 (with M. Deistler).

Über ein Verzweigungsprozeßmodell zur Trägheit des Bevölkerungswachstums. Paper des Instituts für Ökonometrie und Operations Research, Universität Bonn (with M. Deistler).

## 1975

Bemerkungen über Wahrscheinlichkeitsmodelle für rekurrente demographische Prozesse. *Zeitschrift für Bevölkerungswissenschaft* 3/4, 57-72.

Weltbevölkerungsjahr, -Konferenz und - Aktionsplan 1974. *Jahrbuch für Sozialwissenschaft* 26, 123-137.

Die demographische Revolution. *Österreichische Gesellschaft für Familienplanung*, Jahrestagung in Igls.

Nullwachstum der Bevölkerung im linearen populationsdynamischen Modell. *Zeitschrift für Bevölkerungswissenschaft* 2, 39-53 (with M. Deistler).

## 1976

Are economically dependent groups likely to become a significant larger proportion of the population as a whole? In: 'Proceedings of the Colloque on the Changing Population Structures in Europe and Rising Social Costs'. Council of Europe, Strasbourg.

Some economic consequences of declining fertility in the Federal Republic of Germany. In: 'Les Methodes d'Analyse en Demographie Economique, Dossiers et recherches 1'. Institut National d'Etudes Demographiques, Paris.

Stabile Populationsdynamik. In: R. Henn (Ed.), 'Operations Research Verfahren XXV'. Hain, Meisenheim, 434-442.

On the generalization of stable age distributions to Gani-type manpower models. *Advances in Applied Probability* 8, 433-445.

The recruitment trajectory corresponding to particular stock sequences in Markovian person-flow models. *Mathematics of Operations Research* 1, 175-184 (with A. Mehlmann).

## 1977

\* *Stationäre und schrumpfende Bevölkerungen. Demographisches Null- und Negativwachstum in Österreich. Lecture Notes in Economics and Mathematical Systems*, Vol. 149, Springer, Berlin (Ed.).

Ursachen und Konsequenzen des Geburtenrückgangs. In: 'Soziale Probleme der modernen Industriegesellschaft'. Arbeitstagung des Vereins für Socialpolitik in Augsburg 1976. Duncker & Humblot, Berlin, 393-434.

Methodische Probleme der Familienlebenszyklus-Statistik. In: H. Albach, Helmstädtner und R. Henn (Ed.), 'Quantitative Wirtschaftsforschung'. Wilhelm Krelle zum 60. Geburtstag, Mohr, Tübingen.

Bevölkerung. In: W. Albers et al. (Ed.), 'Handwörterbuch der Wirtschaftswissenschaft (HdWW)'. G. Fischer, Stuttgart, 610-631.

Bevölkerungsmodelle. *Allgemeines Statistisches Archiv* 4, 325-348.

Aussichten für das Erwerbspotential und den Anteil wirtschaftlich abhängiger Personen in europäischen Bevölkerungen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 2.

The impact of mortality on the life cycle of the family in Austria. *Zeitschrift für Bevölkerungswissenschaft* 4, 51-79 (with H. Hansluwka).

Bevölkerungsschrumpfung in Österreich. Konsequenzen rückläufiger Fruchtbarkeit für die demographische Entwicklung. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 3 (with J. Muzicant).

## 1978

Optimales Wachstum stabiler Bevölkerungen in einem neoklassischen Modell. *Zeitschrift für Bevölkerungswissenschaft* 1, 63-73 (with M. Deistler, M. Luptacik and A. Wörgötter).

Analyse der Fertilitätsentwicklung in Österreich nach Heiratsjahrgängen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 5 (with A. Haslinger).

Pseudostabile Bevölkerungen: Populationsdynamik bei gleichmäßig sinkender Fertilität. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 4 (with H. Vogelsang).

Zur demographischen Translation I. Beziehungen zwischen Perioden- und Kohortenmessung demographischer Prozesse. Forschungsbericht 12 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

Population Dynamics with Declining Fertility. I and II. Forschungsbericht 15 und 16 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

## 1979

\* *Demographische Analyse und populationsdynamische Modelle: Grundzüge der Bevölkerungsmathematik*. Springer, Wien.

Cohort trends in the timing of the family life cycle in Austria and West-Germany. In: J. Dupâquier et al. (Eds.), 'Historische Demographie'. Paris.

Optimale intertemporale Allokationen mittels des Maximumprinzips. In: J. Schwarze et al. (Eds.), 'Proceedings in Operations Research' 9'. Physica, Würzburg, 484-489.

Analyse des Familienzyklus auf demographischer Basis. In: 'Bericht über die Situation der Familie in Österreich'. Familienbericht 1, Bundeskanzleramt Wien.

Von sinkender zu steigender Fertilität: Bevölkerungsdynamik bei einer Trendumkehr der Fruchtbarkeit. *Zeitschrift für Bevölkerungswissenschaft* 3, 327-340.

Zum Begriff "Schwung des Bevölkerungswachstums". *Jahrbücher für Nationalökonomie und Statistik* 194, 399-400.

Exponentielle Niveau- und Musteränderung der Fertilität. Eine Analyse mittels stabiler Vergleichsbevölkerungen. *Zeitschrift für Bevölkerungswissenschaft* 1, 31-63 (with H. Vogelsang).

## 1980

Optimale Politiken in kontrolltheoretischen Instandhaltungsmodellen. Forschungsbericht 25 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

## 1981

Optimale Allokation von Ausbildung und Berufsausübung in einem nichtlinearen Kontrollmodell. *Zeitschrift für Operations Research* 25, 25-34.

Optimierung von Instandhaltungsinvestitionen, Produktionsintensität und Nutzungsdauer maschinellder Produktionsanlagen: Anwendungen der Kontrolltheorie in der Instandhaltungs- und Produktionsplanung. In: K. Brockhoff und W. Krelle (Eds.), 'Unternehmensplanung'. Springer, Berlin, 213-234.

A noncooperative solution of a simple pollution differential game. Forschungsbericht 34 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Nash-Lösungen zustandsseparabler Nichtnullsummen Differentialspiele. Forschungsbericht 41 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Ein nichtlineares Kontrollproblem der Instandhaltung. *OR-Spektrum* 3, 49-58 (with R.F. Hartl).

## 1982

\* *Optimal Control Theory and Economic Analysis*. First Viennese Workshop on Economic Applications of Control Theory, Vienna, October 28 - 30, 1981, North-Holland, Amsterdam (Ed.).

Saddle-point analysis in a price-advertising model. *Journal of Economic Dynamics and Control* 4, 319-340.

Optimal repair policy for a machine service problem. *Optimal Control Applications and Methods* 3, 15-22.

Optimal pricing in a diffusion model with nonlinear price-dependent market potential. *Operations Research Letters* 1, 236-240.

Anwendungen des Maximumprinzips im Operations Research. Teil 1 und 2. *OR-Spektrum* 4, 171-190, 195-212.

The Nash solution of a maintenance-production differential game. *European Journal of Operational Research* 10, 165-172.

Optimal research policies in a noncooperative project undertaken by two firms. In: G. Feichtinger (Hrsg.), 'Optimal Control Theory and Economic Analysis'. North-Holland, Amsterdam, 373-397.

Optimal bimodal harvest policies in age-specific bioeconomic models. In: G. Feichtinger und P. Kall (Eds.), 'Operations Research in Progress'. Reidel, Dordrecht, 285-299.

Ein Differentialspiel für den Markteintritt einer Firma. In: B. Fleischmann et al. (Eds.), 'Operations Research Proceedings 1981'. Springer, Berlin, 636-644.

\* *Operations Research in Progress*. Reidel, Dordrecht (with P. Kall, Eds.).

## 1983

Optimale dynamische Preispolitik bei drohender Konkurrenz. *Zeitschrift für Betriebswirtschaft* 53, 155-177.

The Nash solution of an advertising differential game: Generalization of a model by Leitmann and Schmitendorf. *IEEE Transactions on Automatic Control* AC-28, 1044-1048.

A differential games solution to a model of competition between a thief and the police. *Management Science* **29**, 686-699.

Pseudostabile Bevölkerungen. In: S. Rupp und K. Schwarz (Eds.), *Beiträge aus der bevölkerungswissenschaftlichen Forschung. Festschrift für Hermann Schubnell*, Schriftenreihe des Bundesinstituts für Bevölkerungsforschung **11**, 535-544.

Differential game models in management science. *European Journal of Operational Research* **14**, 137-155 (with S. Jorgensen).

Eine Fruchtbarkeitstafel auf Paritätsbasis. *Zeitschrift für Bevölkerungswissenschaft* **3**, 363-376 (with W. Lutz).

## 1984

Optimal employment strategies of profit-maximizing and labour-managed firms. *Optimal Control Applications and Methods* **5**, 235-253.

On the synergistic influence of two control variables on the state of nonlinear optimal control models. *Journal of Operational Research Society* **35**, 907-914.

On optimal control models for the dynamics of the firm. In: R. Henn (Eds.), 'Methods of Operations Research' **51**'. Hain, Athenäum.

A note to Jorgensen's logarithmic advertising differential game. *Zeitschrift für Operations Research* **28**, B 133-B 153 (with E.J. Dockner).

Strategic Advertising and Price Management under Dynamic Conditions. Forschungsbericht **76** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

Hiring/Firing vs Overtime/Short-Time Working in a Dynamic Firm. Forschungsbericht **72** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

Alterstrukturreffekt bei der Schätzung schließlicher Paritätsverteilungen. In: C. Höhn et al. (Eds.), 'Demographie in der Bundesrepublik Deutschland'. Festschrift für Karl Schwarz. Boppard, H. Boldt (with W. Lutz).

Lagerhaltungs- und Beschäftigungsstrategien einer Firma. *OR-Spektrum* **6**, 93-107 (with A. Steindl).

## 1985

\* *Optimal Control Theory and Economic Analysis* 2. Second Viennese Workshop on Economic Applications of Control Theory, Vienna, May 16 - 18, 1984, North-Holland, Amsterdam (Ed.).

Optimal modification of machine reliability by maintenance and production. *OR-Spektrum* **7**, 43-50.

Optimal pricing in a duopoly: a noncooperative differential games solution. *Journal of Optimization Theory and Applications* **45**, 199-218 (with E.J. Dockner).

Optimal pricing and production in an inventory model. *European Journal of Operational Research* **19**, 45-56 (with R.F. Hartl).

On the use of Hamiltonian and maximized Hamiltonian in non-differentiable control theory. *Journal of Optimization Theory and Applications* **46**, 493-504 (with R.F. Hartl).

Tractable classes of nonzero-sum open-loop Nash differential games: theory and examples. *Journal of Optimization Theory and Applications* **45**, 179-197 (with E.J. Dockner and S. Jorgensen).

Ein dynamisches Mischungsproblem. Forschungsbericht **79** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger).

## 1986

Production-pollution cycles. Forschungsbericht **95** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Periodic optimal control: can oscillations be optimal in autonomous economic control models? In: W. Domschke et al. (Eds.), 'Methods of Operations Research' **57**. Athenäum, Königstein, 349-366.

Dynamic advertising and pricing in an oligopoly: a Nash equilibrium approach. *Journal of Economic Dynamics and Control* **10**, 37-39 (with E.J. Dockner).

On the Value of Information in Dynamic Games of R & D. Forschungsbericht **85** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner and A. Mehlmann).

\* *Optimale Kontrolle ökonomischer Prozesse: Anwendungen des Maximumprinzips in den Wirtschaftswissenschaften*. de Gruyter, Berlin (with R.F. Hartl).

The dynamic Averch-Johnson effect revisited. Forschungsbericht **83** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

On the optimality of cyclical employment policies: a numerical investigation. *Journal of Economic Dynamics and Control* **10**, 457-466 (with R.F. Hartl, G. Sorger and A. Steindl.).

Planning the unusual: applications of control theory to nonstandard problems. *Acta Applicandae Mathematicae* **7**, 79-102 (with A. Mehlmann).

On the exploitation of curious resources. In: M.J. Beckmann et al. (Eds.), 'Methods in Operations Research' **54**. Hain, Athenäum, 127-145 (with A. Mehlmann).

Optimal oscillations in control models: how can constant demand lead to cyclical production? *Operations Research Letters* **5**, 277-281 (with G. Sorger).

Optimale Dauer und Verteilung von Arbeitspausen. Forschungsbericht **97** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger and A. Novak).

## 1987

Limit cycles in economic control models. In: R. Bulirsch et al. (Eds.), 'Optimal Control'. Proceedings of the Conference on Optimal Control and Variational Calculus Oberwolfach, West-Germany, June 15-21, 1986. Springer, Berlin, 46-55.

Intertemporal optimization of wine consumption at a party: an unusual optimal control model. In: G. Gandolfo and F. Marzano (Eds.), 'Keynesian Theory Planning Models and Quantitive Economics'. Essays in Memory of Vittorio Marrama, Vol. II. Giuffre, Milano, 777-797.

Zur Anwendung der Kontrolltheorie auf die Optimierung ökonomischer Prozesse. In: Th. Fischer (Ed.), '*Betriebswirtschaftliche Systemforschung und ökonomische Kybernetik*'. Duncker & Humblot, Berlin, 271-289.

The statistical measurement of the family life cycle: table methods for analyzing the tempo and structure of the family life cycle. In: J. Bongaarts (Hrsg.), '*Family Demography: Methods and Their Applications*'. Clarendon Press, Oxford, 81-101.

A new sufficient condition for most rapid approach paths. *Journal of Optimization Theory and Applications* **54**, 403-411 (with R.F. Hartl).

Optimal production and abatement policies of a firm. *European Journal of Operational Research* **29**, 274-285 (with M. Luptacik).

Optimal employment and wage policies of a monopolistic firm. *Journal of Optimization Theory and Applications* **53**, 59-83 (with M. Luptacik).

Intertemporal sharecropping: a differential game approach. In: G. Bamberg and K. Spremann (Eds.), '*Agency Theory, Information and Incentives*'. Springer, Berlin, 415-438 (with G. Sorger).

## 1988

\* *Optimal Control Theory and Economic Analysis 3*. Third Viennese Workshop on Optimal Control Theory and Economic Analysis, Vienna, May 20 - 22, 1987, North-Holland, Amsterdam (Ed.).

Optimal persistent oscillations and adjustment costs. In: P. Flaschel and M. Krüger (Eds.), '*Recent Approaches to Economic Dynamics*'. P. Lang, Frankfurt, 119-131.

Ein dynamisches Modell des Intensitätssplittings. *Zeitschrift für Betriebswirtschaft* **11**, 1242-1258 (with K.-P. Kistner and A. Luhmer).

Optimal price and advertising policy in convenience goods retailing. *Marketing Science* **7**, 187-201 (with A. Luhmer and G. Sorger).

ADPULS in continuous time. *European Journal of Operational Research* **34**, 171-177 (with A. Luhmer, A. Steindl, R.F. Hartl and G. Sorger).

Periodic research and development. In: G. Feichtinger (Ed.), '*Optimal Control Theory and Economic Analysis 3*'. Third Viennese Workshop on Optimal Control Theory and Economic Analysis, Vienna, May 20 - 22, 1987. North-Holland, Amsterdam, 121-141 (with G. Sorger).

## 1989

Demographische Prognosen und populationsdynamische Modelle. In: B. Felderer (Hrsg.), '*Bevölkerung und Wirtschaft*'. Duncker & Humblot, Berlin, 71-92.

On cyclical inventory and marketing decisions. In: U. Rieder et al., '*Methods of Operations Research*' **62**. Hain, Meisenheim, 387-388 (with E.J. Dockner).

A note on optimal redistributive taxation. Forschungsbericht **119** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

Noncooperative solutions for a differential game model of fishery. *Journal of Economic Dynamics and Control* **13**, 1-20 (with E.J. Dockner and A. Mehmann).

Self-generated fertility waves in a non-linear continuous overlapping generations model.  
*Journal of Population Economics* **2**, 267-280 (with G. Sorger).

## 1990

Optimal periodic policies in dynamic economic systems. *National Contribution of Austria*.  
IFORS 1990, Athen. In: H.E. Bradley (Ed.), 'Operational Research '90'. Pergamon Press, Oxford, 771-782.

Capital accumulation, endogenous population growth, and Easterlin cycles. *Journal of Population Economics* **3**, 73-87 (with E.J. Dockner).

Oligopolistisches Preismanagement bei Lerneffekten und Überkapazitäten. *Zeitschrift für Betriebswirtschaft* **1**, 7-19 (with E.J. Dockner).

Interaction of price and advertising under dynamic conditions. In: K.-P. Kistner et al. (Eds.), 'Operations Research Proceedings 1989'. Springer, Berlin, 547-554 (with E.J. Dockner and G. Sorger).

Capital accumulation, aspiration adjustment, and population growth: limit cycles in an Easterlin-type model. *Mathematical Population Studies* **2**, 93-103 (with G. Sorger).

## 1991

On the optimality of limit cycles in dynamic economic systems. *Journal of Economics* **53**, 31-50 (with E.J. Dockner).

\* *Methods of Operations Research: OR 1990, International Conference on Operations Research 1990 in Vienna*. Anton Hain, Frankfurt (with R.F. Hartl, W. Janko, W.E. Katzenberger and A. Stepan, Eds.).

Cyclical production and marketing decisions: application of Hopf bifurcation theory. *International Journal of Systems Science* **22**, 1035-1046 (with E.J. Dockner and A. Novak).

Zyklen beim Schilift. Forschungsbericht **138** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with W. Herold and P. Zinner).

A note on the optimal use of environmental resources by an indebted country. *Journal of Institutional and Theoretical Economics* **147**, 547-555 (with A. Novak).

Politico-economic cycles of regulation and deregulation. *European Journal of Political Economy* **7**, 469-485 (with F. Wirl).

## 1992

\* *Dynamic Economic Models and Optimal Control*. North-Holland, Amsterdam (Ed.).

Hopf bifurcation in an advertising diffusion model. *Journal of Economic Behavior & Organisation* **17**, 401-411.

Rational addictive cycles ('binges') under a budget constraint. *Optimal Control Applications and Methods* **13**, 95-104.

Optimal control of economic systems. In: S. Tzafestas (Ed.), 'Automatic Control Handbook'. M. Dekker, New York, 1023-1044.

Limit cycles in dynamic economic systems. In: G. Feichtinger and R.F. Hartl (Eds.), '*Nonlinear Methods in Economic Dynamics and Optimal Control*'. Annals of Operations Research **37**. Baltzer, Basel, 313-344.

Nonlinear threshold dynamics: Further examples for chaos in social sciences. In: G. Haag, U. Mueller and K.G. Troitzsch (Eds.), '*Economic Evolution and Demographic Change, Formal Models in Social Sciences: Formal Models in Social Sciences*'. Lecture Notes in Economics and Mathematical Systems **395**. Springer, Berlin, 141-154.

A nonlinear dynamical model on the arms race. Forschungsbericht **145** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with D. Behrens).

\* *Operations Research Proceedings: Papers of the International Conference on Operations Research 1990*. Springer, Berlin (with W. Bühler, R.F. Hartl, F.J. Radermacher and P. Stähly).

Does society gain from the actions of environmentalists? Forschungsbericht **143** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

\* *Nonlinear Methods in Economic Dynamics and Optimal Control*. Annals of Operations Research **37**, Baltzer, Basel (with R.F. Hartl, Eds.).

Optimal recycling of tailings for the production of building materials. *Czechoslovak Journal for Operations Research* **1**, 181-192 (with R.F. Hartl and G.T. Kirakossian).

Stable resource-employment limit cycles in an optimally regulated fishery. In: G. Feichtinger (Ed.), '*Dynamic Economic Models and Optimal Control*'. North-Holland, Amsterdam, 163-184 (with V. Kaitala and A. Novak).

A note on the optimal exploitation of migratory fish stocks. *Dynamics and Control* **2**, 255-263 (with A. Novak).

Optimal consumption, training, working time and leisure over the life cycle. *Journal of Optimization Theory and Applications* **75**, 369-388 (with A. Novak).

Seltsames Verhalten nichtlinearer demographischer Prozesse. *Acta Demographica*, 131-156 (with A. Prskawetz).

Immigration into a population with fertility below replacement level - the case of Germany. *Population Studies* **46**, 275-284 (with G. Steinmann).

## 1993

Strange addictive behaviour: Periodic and chaotic binges. In: W.E. Diewert, K. Spremann and F. Stehling (Eds.), '*Mathematical Modelling in Economics*'. Essays in Honor of Wolfgang Eichhorn. Springer, Berlin, 149-162.

Complex solutions of dynamic optimization models. Forschungsbericht **167** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Cyclical consumption patterns and rational addiction. *American Economic Review* **83**, 256-263 (with E.J. Dockner).

Dynamic R & D competition with memory. *Journal of Evolutionary Economics* **3**, 145-152 (with E.J. Dockner and A. Mehlmann).

Chaos in nonlinear dynamical systems exemplified by an R & D model. *European Journal of Operational Research* **68**, 145-159 (with M. Kopel).

Optimal treatment of cancer diseases. *International Journal of Systems Science* **24**, 1253-1263 (with A. Novak).

A dynamic variant of the battle of the sexes. *International Journal of Game Theory* **22**, 359-380 (with F. Wirl).

#### 1994

Optimal complex dynamics in environmental economics. *Proceedings of International Conference of Dynamical Systems and Chaos*, Tokyo. World Scientific.

Environmentalists versus resources exploiters: a dynamic game analysis. In: G.L. Paredes V. (Ed.), *International Symposium on Systems Analysis and Management Decisions in Forestry*. Universidad Austral of Chile Press, 392-398 Valdivia (with E.J. Dockner).

Nonconcavity and proper optimal periodic control. *Journal of Economic Dynamics and Control* **18**, 975-990 (with M. Han and R.F. Hartl).

Dynamic optimal control models in advertising: recent developments. *Management Science* **40**, 195-226 (with R.F. Hartl and S.P. Sethi).

Chaos in a simple deterministic queueing system. *Zeitschrift für Operations Research* **40**, 109-119 (with C.H. Hommes and W. Herold).

Complex dynamics in a threshold advertising model. *OR-Spektrum* **16**, 101-111 (with C.H. Hommes and A. Milik).

Nichtlineare dynamische Systeme und Chaos: Neue Impulse für die Betriebswirtschaftslehre? *Zeitschrift für Betriebswirtschaft* **64**, 7-34 (with M. Kopel).

Differential game model of the dynastic cycle: 3-D canonical system with a stable limit cycle. *Journal of Optimization Theory and Applications* **80**, 407-423 (with A. Novak).

Optimal pulsing in an advertising diffusion model. *Optimal Control Applications and Methods* **15**, 267-276 (with A. Novak).

How stock-dependent flow rates imply chaos in educational planning. *Mathematical Population Studies* **5**, 75-85 (with A. Novak).

Limit cycles in intertemporal adjustment models - theory and applications. *Journal of Economic Dynamics and Control* **18**, 353-380 (with A. Novak and F. Wirl).

Endogenous population growth and the exploitation of renewable resources. *Mathematical Population Studies* **5**, 87-106 (with A. Prskawetz and F. Wirl).

A nonlinear model of population growth and renewable resources. *Chaotische Nachrichten* **31**, 16-21 (with A. Prskawetz and F. Wirl).

On the stability and potential cyclicity of corruption in governments subject to popularity constraints. *Mathematical Social Sciences* **28**, 113-131 (with F. Wirl).

#### 1995

On the optimal trade-off between consumption and pollution. *Izvestiya of the Academy of Sciences. Control Theory and Systems* **6**, 235-239.

Complex optimal policies in an advertising diffusion model. *Chaos, Solitons and Fractals* **5**, 45-53 (with H. Dawid).

Optimal resource exploitation may be chaotic. *Central European Journal for Operations Research and Economics* **3**, 111-122 (with H. Dawid and G. Tragler).

Chaotic behavior in an advertising diffusion model. *International Journal of Bifurcation and Chaos* **5**, 255-263 (with L.L. Ghezzi and C. Piccardi).

Bifurcations of love: the passionate-avoiding couple. Forschungsbericht **196** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with A. Gragnani).

Slow-fast limit cycles in controlled drug markets. *Proceedings of 3rd European Control Conference* **4**, 3031-3034 (with A. Gragnani and S. Rinaldi).

Habit formation with threshold adjustment: addiction may imply complex dynamics. *Journal of Evolutionary Economics* **5**, 157-172 (with W. Herold, A. Prskawetz and P. Zinner).

Rationalität und komplexes Verhalten. *Homo oeconomicus und Chaos - Ein Widerspruch?* *Zeitschrift für Betriebswirtschaftliche Forschung* **6**, 545-557 (with M. Kopel).

Resource leasing and optimal periodic capital investments. *Zeitschrift für Operations Research* **42**, 47-67 (with A. Novak and V. Kaitala).

Endogenous population growth may imply chaos. *Journal of Population Economics* **8**, 59-80 (with A. Prskawetz).

Persistent cyclical consumption: variations on the Becker-Murphy model of addiction. *Rationality and Society* **7**, 156-166 (with F. Wirl).

## 1996

Chaos theory in Operations Research. *International Transactions of Operations Research* **3**, 23-36.

Crime and punishment: a dynamic approach. Forschungsbericht **195** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Optimal allocation of drug control efforts: a differential game analysis. *Journal of Optimization Theory and Applications* **91**, 279-297 (with H. Dawid).

On the persistence of corruption. *Journal of Economics* **64**, 177-193 (with H. Dawid).

Economic crimes and law enforcement: a differential game. Forschungsbericht **204** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Dawid and S. Jorgensen).

Despotism and anarchy in ancient China: Visualizing the dynastic cycle. *Jahrbuch für Wirtschaftswissenschaften* **47**, 1-13 (with G. Fischel, E. Gröller and A. Prskawetz).

A nonlinear dynamical model for the dynastic cycle. *Chaos, Solitons and Fractals* **7**, 257-271 (with C. Forst and C. Piccardi).

The Geometry of Wonderland. *Chaos, Solitons and Fractals* **7**, 1989-2006 (with E. Gröller, R. Wegenkittl, A. Milik, A. Prskawetz and W.C. Sanderson).

Slow-fast dynamics in Wonderland. *Environmental Modeling and Assessment* **1**, 3-17 (with A. Milik, A. Prskawetz and W.C. Sanderson).

Persistent oscillations in a threshold adjustment model. *Mathematical Modelling of Systems* **2**, 197-211 (with A. Novak).

### 1997

Komplexe Dynamik in den Sozialwissenschaften. In: F. Stadler (Hrsg.), *Wissenschaft als Kultur. Österreichs Beitrag zur Moderne*. Springer, Wien, 197-214.

Complex dynamics and control of arms race. *European Journal of Operational Research* **100**, 192-215 (with D. Behrens and A. Prskawetz).

Complex solutions of nonconcave dynamic optimization models. *Economic Theory* **9**, 427-439 (with H. Dawid and M. Kopel).

Indeterminacy of open-loop Nash equilibria: The ruling class versus the tabloid press. In: H.G. Natke and Y. Ben-Haim (Eds.), *Uncertainty: Models and Measures*. Akademie-Verlag, Berlin, 124-136 (with H. Dawid, A. Novak and F. Wirl).

Non-linear dynamics and predictability in the Austrian stock market. In: Ch. Heij et al. ed., *System Dynamics in Economic and Financial Models*. Wiley, Chichester, 43-70 (with E.J. Dockner and A. Prskawetz).

Cyclic dynamics in romantic relationships. *International Journal of Bifurcations and Chaos* **7**, 2611-2619 (with A. Gragnani and S. Rinaldi).

Dynamics of drug consumption: a theoretical model. *Socio-Economic Planning Science* **31**, 127-137 (with A. Gragnani and S. Rinaldi).

Chaotic consumption patterns in a simple 2-D addiction model. *Economic Theory* **10**, 147-173 (with C.H. Hommes and A. Milik).

Einfache dynamische Werbestrategien im Kampf um Marktanteile. *Marketing Zeitschrift für Forschung und Praxis* **4**, 221-231 (with M. Kopel and F. Wirl).

### 1998

Optimale Kontrolle des Drogenkonsums. *OR News* **3**, 6-12 (with D. Behrens and G. Tragler).

Solution techniques for periodic control problems: a case study in production planning. *Optimal Control Applications and Methods* **19**, 185-203 (with C. Büskens and H. Maurer).

Periodic and chaotic programs of intertemporal optimization models with non-concave net benefit function. *Journal of Economic Behavior & Organization* **33**, 435-447 (with H. Dawid and M. Kopel).

Optimal enforcement policies (crackdowns) on an illicit drug market. *Optimal Control Applications and Methods* **19**, 169-184 (with R.F. Hartl, J.L. Haunschmied and P. Kort).

The accomplishment of the Maastricht criteria with respect to initial debt. *Journal of Economics* **68**, 93-110 (with M. Luptacik and A. Prskawetz).

A model on the escape from the Malthusian trap. *Journal of Population Economics* **11**, 535-550 (with A. Prskawetz and G. Steinmann).

Corruption dynamics in democratic societies. *Complexity* **3**, 53-64 (with S. Rinaldi and F. Wirl).

## 1999

Dynamic economic models of optimal law enforcement. In: U. Leopold-Wildburger, G. Feichtinger, K.-P. Kistner, *Modelling and Decisions in Economics. Essays in Honor of Franz Ferschl*. Springer, Heidelberg, 269-293.

Variances of population projections: Comparison of two approaches. IIASA Report IR-99-063 (with D. Bauer, W. Lutz, W. Sanderson).

A dynamic model of drug initiation: Implications for treatment and drug control. *Mathematical Biosciences* **159**, 1-20 (with D. Behrens, J.P. Caulkins, J.L. Haunschmied and G. Tragler).

\* *Optimal Control and Differential Games*. Annals of Operations Research **88** (with H. Dawid and R.F. Hartl).

\* *Nonlinear Dynamical Systems and Adaptive Methods*. Annals of Operations Research **89** (with H. Dawid and R.F. Hartl).

Optimal offending in view of the offender's criminal record. *Central European Journal of Operations Research* **7**, 111-127 (with T. Fent and M. Zalesak).

Optimal firm investment in security. *Annals of Operations Research* **88**, 81-98 (with J.L. Haunschmied and P.M. Kort).

Endogenous growth of population and income depending on resource and knowledge. *European Journal of Population* **14**, 305-331 (with F.X. Hof, M. Luptacik, W. Lutz, A. Milik, A. Prskawetz and F. Wirl).

Petrarch's "Canzoniere": Rational addiction and amorous cycles. *Journal of Mathematical Sociology* **23**, 225-240 (with S. Jorgensen and A. Novak).

Threshold advertising rules in a duopoly framework. *Central European Journal of Operations Research* **7**, 39-52 (with M.Kopel and F. Wirl).

## 2000

BAVEJA A. - G. FEICHTINGER - R.F. HARTL - J.L. HAUNSCHMIED - P.M. KORT: A resource-constrained optimal control model for crackdown on illicit drug markets. *Journal of Mathematical Analysis and Applications* **249**, 53-79.

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Optimal control of drug epidemics: prevent and treat - but not at the same time? *Management Science* **46**, 333-347.

BORISOV V. - G. FEICHTINGER - A. KRYAZHIMSKII: Optimal enforcement on a pure seller's market of illicit drugs. *Journal of Optimization Theory and Applications* **106**, 1-22.

CAULKINS J.P. - M. DWORAK - G. FEICHTINGER - G. TRAGLER: Price-raising drug enforcement and property crime: a dynamic model. *Journal of Economics* **71**, 227-253.

DAWID H. - G. FEICHTINGER - S. JORGENSEN: Crime and law enforcement: A multistage game. In: J.A. Filar, V. Gaitsgory, K. Mizukami (Ed.), *Advances in Dynamic Games and Applications*. Birkhäuser, Boston, 341-35.

FEICHTINGER G.: The Control of Age-Structured Populations: A Dynamic Cost-Benefit Approach. Forschungsbericht 236 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien. Prepared for the Age Structured Transitions and Policy Implications, IUSSP/APN Meeting in Phuket, Thailand.

FEICHTINGER G.: On the economics of corruption and illicit drugs. *Applications of Mathematics and Statistics in Economy* 6, 21-26.

FEICHTINGER G. - F. WIRL: Instabilities in concave, dynamic, economic optimization. *Journal of Optimization Theory and Applications* 107, 277-288.

PRSKAWETZ A. - G. STEINMANN - G. FEICHTINGER: Human capital, technological progress and the demographic transition. *Mathematical Population Studies* 7, 343-363.

## 2001

ALMEDER C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Age-specific multi-stage drug initiation models: insights from considering heterogeneity. *Bulletin on Narcotics* LIII, 105-118.

BEHRENS D.A. - G. FEICHTINGER - G. TRAGLER: Wer nicht lernen will, muß fühlen! *OR-News* 13, 5-9.

CAULKINS J.P. - R.F. HARTL - G. TRAGLER - G. FEICHTINGER: Why politics makes strange bedfellows: dynamic model with DNS curves. *Journal of Optimization Theory and Applications* 111, 237-254.

\* DAWID H. - G. FEICHTINGER - R.F. HARTL (Eds.): *Nonlinear Dynamics: Theory and Economic Applications*. Special Issue of *Central European Journal of Operations Research* 9, 1-2.

FEICHTINGER G.: Optimal control of law enforcement. In: F. Udwadia, A. Kryazhimskii and G. Leitmann, *Advances in Dynamics and Control*. Gordon & Breach Science Publ., London, 151-160.

FEICHTINGER G.: Environmental policy design and the economics of crime: some analogies in intertemporal optimization. In: P. Kischka, U. Leopold-Wildburger, R.H. Möhring, F.-J. Radermacher (Eds.), *Models, Methods and Decision Support for Management. Essays in Honor of Paul Stähly*. Physica, Heidelberg, 23-47.

\* FEICHTINGER G. - R.F. HARTL - P. KORT (Eds.): *Economic Applications of Optimal Control*. Special Issue of *Optimal Control Applications and Methods* 22, 5/6.

FEICHTINGER G. - R.F. HARTL - P. KORT - A. NOVAK: Terrorism control in the tourism industry. *Journal of Optimization Theory and Applications* 108, 283-296.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - F. WIRL: The dynamics of a simple relative adjustment cost framework. *German Economic Review* 2, 255-268.

GREINER A. - G. FEICHTINGER - J.L. HAUNSCHMIED - P.M. KORT - R.F. HARTL: Optimal periodic development of a pollution generating tourism industry. *European Journal of Operational Research* 134, 582-591.

TRAGLER G. - J.P. CAULKINS - G. FEICHTINGER: Optimal dynamic allocation of treatment and enforcement in illicit drug control. *Operations Research* 49, 352-362.

## 2002

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Why present-oriented societies undergo cycles of drug epidemics. *Journal of Economic Dynamics and Control* **26**, 919-936.

DAWID H. - G. FEICHTINGER - A. NOVAK: Extortion as an obstacle to economic growth: a dynamic game analysis. *European Journal of Political Economy* **18**, 499-516.

DWORAK M. - F. WIRL - A. PRSKAWETZ - G. FEICHTINGER: Optimal long-run budgetary policies subject to the Maastricht criteria or a stability pact. *Macroeconomic Dynamics* **6**, 665-686.

\* FEICHTINGER G. - R. GISSEK - J. KYTIR (Hg.): Demographie im interdisziplinären Kontext. Festschrift 25 Jahre Institut für Demographie der Österreichischen Akademie der Wissenschaften.

FEICHTINGER G. - W. GRIENAUER - G. TRAGLER: Optimal dynamic law enforcement. *European Journal of Operational Research* **141**, 58-69.

\* FEICHTINGER G. - R.F. HARTL - S. JORGENSEN (Eds.): *International Game Theory Review*. Special Issue of *Differential Game Applications* **4**, 1.

FEICHTINGER G. - G. TRAGLER: Multiple equilibria in an optimal control model for law enforcement. *Proceedings of the Steklov Institute of Mathematics* **236**, 449-460 (American Mathematical Society).

FEICHTINGER G. - G. TRAGLER: Skiba thresholds in optimal control of illicit drug use. In: G. Zaccour (Ed.), *Optimal Control and Differential Games*. Essays in Honor of Steffen Jorgensen. Kluwer Academic Publ., Boston, 3-21.

FENT T. - G. FEICHTINGER - G. TRAGLER: A dynamic game of offending and law enforcement. *International Game Theory Review* **4**, 71-89.

KORT P.M. - A. GREINER - G. FEICHTINGER - J.L. HAUNSCHMIED - A. NOVAK - R.F. HARTL: Environmental effects of tourism industry investments: an intertemporal trade-off. *Optimal Control Applications and Methods* **23**, 1-19.

LUTZ W. - S. SCHERBOV - A. PRSKAWETZ - M. DWORAK - G. FEICHTINGER: Population, natural resources, and food security: lessons from comparing full and reduced-form models. *Population and Development Review* **28**, Bd. 2, Supplement 199-224.

PICCARDI C. - G. FEICHTINGER: Peak-to-Peak dynamics in the dynastic cycle. *Chaos, Solitons and Fractals* **13**, 195-202.

WIRL F. - G. FEICHTINGER: Intrafamiliar consumption and saving under altruism and wealth considerations. *Economica* **69**, 93-111.

## 2003

\* FEICHTINGER G.: *Vienna Yearbook of Population Research*. Verlag der Österreichischen Akademie der Wissenschaften, Wien.

FEICHTINGER G. - G. TRAGLER - V.M. VELIOV: Optimality conditions for age-structured control systems. *Journal of Mathematical Analysis and Applications* **288**, 47-68.

HARTL R.F. - P. KORT - G. FEICHTINGER: Offense control taking into account heterogeneity of age. *Journal of Optimization Theory and Applications* **116**, 591-620.

HAUNSCHMIED J.L. - P.M. KORT - R.F. HARTL - G. FEICHTINGER: A DNS-curve in a two-state capital accumulation model: a numerical analysis. *Journal of Economic Dynamics and Control* **27**, 701-716.

PRSKAWETZ A. - M. WINKLER-DWORAK - G. FEICHTINGER: Production, distribution and insecurity of food: a dynamic framework. *Structural Change and Economic Dynamics* **14**, 317-337.

PRSKAWETZ A. - A. GRAGNANI - G. FEICHTINGER: Reconsidering the dynamic interaction of renewable resources and population growth: a focus on long-run sustainability. *Environmental Modeling and Assessment* **8**, 35-45.

## 2004

ALMEDER C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: An age-structured single-state drug initiation model - cycles of drug epidemics and optimal prevention programs. *Socio-Economic Planning Sciences* **38**, 91-109.

\* BARNETT W.A. - C. DEISSENBERG - G. FEICHTINGER (Ed): *Economic Complexity: Non-linear Dynamics, Multi-Agents Economies, and Learning*. Elsevier, Amsterdam, 1-467.

BEHRENS D.A. - J.P. CAULKINS - G. FEICHTINGER: A model of chaotic drug markets and their control. *Journal of Nonlinear Dynamics, Psychology and Life Sciences* **8**, 373-399.

DEISSENBERG C. - G. FEICHTINGER - W. SEMMLER - F. WIRL: Multiple equilibria, history dependence, and global dynamics in intertemporal optimisation models. In: W.A. Barnett, C. Deissenberg, G. Feichtinger, *Economic Complexity: Non-linear Dynamics, Multi-Agents Economies, and Learning*. Elsevier, Amsterdam, 91-122.

FEICHTINGER G.: Multiple equilibria in optimal control models - A research program. In: Feichtinger G., K.-P. Kistner, C. Schneeweiss, OR, Economics and Statistics *Central European Journal of Operations Research* **12**, Special Issue 2. Essays in Honor of Franz Ferschl. Physica, Heidelberg, 157-169.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V. VELIOV: Dynamic investment behavior taking into account ageing of the capital goods. In: F.E. Udwadia, H.I. Weber, G. Leitmann (ed.), *Dynamical Systems and Control*. Chapman & Hall/CRC, London, 379-391.

\* FEICHTINGER G. - K.-P. KISTNER - C. SCHNEEWEISS: OR, Economics and Statistics. *Central European Journal of Operations Research* **12**, Special Issue 2. Essays in Honor of Franz Ferschl. Physica, Heidelberg, 105-230.

FEICHTINGER G. - A. PRSKAWETZ - V. VELIOV: Age-structured optimal control in population economics. *Theoretical Population Biology* **65**, 373-387.

FEICHTINGER G. - W. SANDERSON - V.M. VELIOV: The optimal mix of medication and prevention: dynamics and control of the HIV/AIDS epidemics in Botswana. *IFORS Newsletter for Developing Countries* **12**, 6-7.

FEICHTINGER G. - G. TRAGLER: Ein dynamischer Kosten-Nutzen-Ansatz zur Drogenabhängigkeit. In: F. Treter, B. Erbas, G. Sonntag (Hrsg.), *Ökonomie der Sucht und Suchttherapie*. Pabst Sci. Publ., Lengerich, 373-394.

FEICHTINGER G. - T. TSACHEV - V.M. VELIOV: Maximum principle for age and duration structured systems: a tool for optimal prevention and treatment of HIV. *Mathematical Population Studies* **11**, 3-28.

\* FEICHTINGER G. - V.M. VELIOV (Eds.): *Age-Structured Models in Population Dynamics and Economics*. Special Issue of *Mathematical Population Studies* **11**, 3-4.

HARTL R.F. - P.M. KORT - G. FEICHTINGER - F. WIRL: Multiple equilibria and thresholds due to relative investment costs. *Journal of Optimization Theory and Applications* **123**, 49-82.

STEINDL A. - G. FEICHTINGER: Bifurcations to periodic solutions in a production/inventory model. *Journal of Nonlinear Science* **14**, 469-503.

## 2005

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: A model of moderation: finding Skiba points on a slippery slope. *Central European Journal of Operations Research* **13**, 45-64.

CAULKINS J.P. - G. FEICHTINGER - M. JOHNSON - G. TRAGLER - Y. YEGOROV: Skiba thresholds in a model of controlled migration. *Journal of Economic Behavior & Organisation* **57**, 490-508.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - M. JOHNSON - G. TRAGLER - Y. YEGOROV: Placing the poor while keeping the rich in their place: separating strategies for optimally managing residential mobility and assimilation. *Demographic Research* **13**, 1-34.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V.M. VELIOV: Environmental policy, the Porter hypothesis and the composition of capital: effects of learning and technological progress. *Journal of Environmental Economics and Management* **50**, 434-446.

GAVRILA C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER - R.F. HARTL: Managing the reputation of an award to motivate performance. *Mathematical Methods of Operations Research* **61**, 1-22.

GAVRILA C. - G. FEICHTINGER - G. TRAGLER - R.F. HARTL - P.M. KORT: History-dependence in a rational addiction model. *Mathematical Social Sciences* **49**, 273-293.

LEVY A. - G. FEICHTINGER: A theory of random-lifetime-rational junk-food consumption. *Central European Journal of Operations Research*.

WIRL F. - G. FEICHTINGER: History dependence in concave economies. *Journal of Economic Behavior & Organisation* **57**, 390-407.

## 2006

CAULKINS J.P. - G. FEICHTINGER - C. GAVRILA - A. GREINER - J.L. HAUNSCHMIED - P.M. KORT - G. TRAGLER: Dynamic cost-benefit analysis of drug substitution programs? *Journal of Optimization Theory and Applications* **128**: 279-294.

CAULKINS J.P. - G. FEICHTINGER - J.L. HAUNSCHMIED - G. TRAGLER: Quality cycles and the strategic manipulation of value. *Operations Research* **54**: 666-677.

CAULKINS J.P. - A. GRAGNANI - G. FEICHTINGER - G. TRAGLER: High and low frequency oscillations in drug epidemics. *International Journal of Bifurcation and Chaos* **16**: 3275-3289.

FEICHTINGER, G. - R.F. HARTL - P.M. KORT - V. VELIOV: Anticipation effects of technological progress on capital accumulation: a vintage capital approach. *Journal of Economic Theory* **126**: 143-164.

FEICHTINGER G. - HARTL R.F. - P.M. KORT - V.M. VELIOV: Capital accumulation under technological progress and learning: a vintage capital approach. *European Journal of Operational Research* **172**: 293-310.

FEICHTINGER G. - A. STEINDL: DNS curves in a production/inventory model. *Journal of Optimization Theory and Applications* **128**: 295-308.

FEICHTINGER G. - G. TRAGLER - D.A. BEHRENS: Optimale Kontrolle des Drogenkonsums. *OR News*, Sonderausgabe, 105-110.

FEICHTINGER G. - M. WINKLER-DWORAK - I. FREUND - A. PRSKAWETZ: Zur Altersdynamik Gelehrter Gesellschaften - dargestellt am Beispiel der ÖAW. *Anzeiger der philosophisch-historischen Klasse* **141**, 43-74. Verlag der Österreichischen Akademie der Wissenschaften, Wien.

HAUNSCHMIED J.L. - G. FEICHTINGER - R.F. HARTL - P.M. KORT: Keeping up with the technology pace: a DNS-curve in a limit cycle in a technology investment decision problem. *Journal of Economic Behavior & Organization* **57**: 509-529.

KORT P.M. - J.P. CAULKINS - R.F. HARTL - G. FEICHTINGER: Brand image and brand dilution in the fashion industry. *Automatica* **42**: 1363-1370.

WIRL F. - G. FEICHTINGER: History versus expectations: increasing returns or social influence? *The Journal of Socio-Economics* **35**: 877-888.

## 2007

ALMEDER C. - G. FEICHTINGER - W.C. SANDERSON - V.M. VELIOV: Prevention and medication of HIV/AIDS - the case of Botswana. *Central European Journal of Operations Research* **15**: 47-61.

BEHRENS D.A. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Incentive Stackelberg strategies for a dynamic game on terrorism. In: Jørgensen S. - Quincampoix M. - Vincent T.L. (eds.): *Advances in Dynamic Game Theory and Application. Numerical Methods, Algorithms, and Applications to Ecology and Economics* (Annals of the International Society of Dynamic Games 9), Birkhäuser, Boston, 223-253.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Bifurcating DNS thresholds in a model of organizational bridge building. *Journal of Optimization Theory and Applications* **133**: 19-35.

CAULKINS J.P. - G. FEICHTINGER - G. TRAGLER - V. VELIOV: Cycles of violence: A dynamic control analysis. *European Journal of Operational Research* **181**: 350-361.

CAULKINS J.P. - R.F. HARTL - P.M. KORT - G. FEICHTINGER: Explaining fashion cycles: Imitators chasing innovators in product space. *Journal of Economic Dynamics and Control* **31**: 1535-1556.

FEICHTINGER G.: Dynamik und Steuerung von Populationen in konstanter Größe. In: Ch. Höhn, J. Dorbritz (Hrsg.): Demographischer Wandel – Wandel der Demographie. Festschrift für Karl Schwarz. Schriftenreihe des Bundesinstituts für Bevölkerungsforschung, Band 37: 95-122.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - Y. YEGOROV: A new solution property in optimal control: the lens. *Automatica* **43**: 744-747.

FEICHTINGER G. - V.M. VELIOV: On a distributed control problem arising in dynamic optimization of a fixed-size population. *Siam Journal on Optimization* **18**: 980-1003.

FEICHTINGER G. - M. WINKLER-DWORAK - I. FREUND - A. PRSKAWETZ - F. RIOSMENA: On the age dynamics of learned societies - Taking the example of the Austrian Academy of Sciences. *Vienna Yearbook of Population Research*: 107-132.

KUHN M. - A. PRSKAWETZ - S. WRZACZEK - G. FEICHTINGER: Health, survival and consumption over the life cycle: Individual versus social optimum and the role of externalities. *Rostocker Zentrum zur Erforschung des Demografischen Wandels. Diskussionspaper* **16**.

## 2008

BULTMANN R. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Modeling supply shocks in optimal control models of illicit drug consumption. In *Lecture Notes in Computer Sciences* **4818**: 285-292, Springer, Heidelberg.

BULTMANN R. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: How should policy respond to disruptions in markets for illegal drugs? *Contemporary Drug Problems*. **35**(203): 371-395.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Optimizing counter-terror operations: should one fight with "Fire" or "Water"? *Computer and Operations Research* **35**: 1874-1885.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V.M. VELIOV: Financially constrained capital investments: the effects of disembodied and embodied technological progress. *Journal of Mathematical Economics* **44**: 459-483.

FEICHTINGER G. - A.J. NOVAK: Terror and counterterror operations: differential game with cyclical Nash solution. *Journal of Optimization Theory and Applications* **139**: 541-556.

GRASS D. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER - D.A. BEHRENS: *Optimal Control of Nonlinear Processes. With Applications in Drugs, Corruption, and Terror*. Springer, Berlin.

## 2009

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Memory, contagion, and capture rates: characterizing the types of addictive behavior that are prone to repeated epidemics. Forthcoming in *Mathematical Biosciences*.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Optimal control of terrorism and global reputation. A case study with novel threshold behavior. *OR Letters* **37**(6): 387-391.

DAWID H. - G. FEICHTINGER - J.R. GOLDSTEIN - V.M. VELIOV: Keeping a learned society young. *Demographic Research* **20**(22): 541-558.

GAVRILA C. - H. POLLACK - P.M. KORT - G. FEICHTINGER - G. TRAGLER: Optimal control of methadone treatment in preventing blood-borne disease. Forthcoming in *Medical Decision Making*.

## 2010

CAULKINS J.P. - G. FEICHTINGER - G. TRAGLER - D. WALLNER: When in a drug epidemic should the policy objective switch from use reduction to harm reduction? *European Journal of Operational Research* **201**: 308-318.

FEICHTINGER G. - A.J. NOVAK - V.M. VELIOV: Applying the Leitmann-Stalford sufficient conditions to maximization control problems with non-concave Hamiltonian. *Applied Mathematics and Computation* **217**(3): 1017-1022. [Research Report 2010-02](#), ORCOS, TU Wien

NOVAK A.J. - G. FEICHTINGER - G. LEITMANN: A differential game related to terrorism: Nash and Stackelberg strategies. *Journal of Optimization Theory and Applications* **144**(3): 533-555.

VELIOV V.M., H. DAWID, E. DOCKNER, R.F. HARTL, J. HAUNSCHMIED, U. LEOPOLD-WILDBURGER, M. LUPTACIK, A. MEHLMANN, A. PRSKAWETZ, M. RAUNER, G. SORGER, G. TRAGLER: Special issue in honour of Gustav Feichtinger - Gustav Feichtinger celebrates his 70-th birthday. *Central European Journal of Operations Research* **18**(4): 437-451.

WIRL F., G. FEICHTINGER: Modelling Social Dynamics (of Obesity)and Thresholds: *Games* **2010**(1): 395-414.

WRZACZEK S., M KUHN, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: The reproductive value in distributed optimal control models. *Theoretical Population Biology* **77** (3): 164 - 170.

CAULKINS J. P., GRASS D., FEICHTINGER G., TRAGLER G.: Optimizing counter-terror operations. IFAC Workshop on Supplemental Ways for Improving International Stability, Kosovo (2010), *International Stability* **8**(1)

## 2011

CAULKINS J.P., FEICHTINGER G., GRASS D., HARTL R.F., KORT P.M. & SEIDL, A. 2011. Optimal Pricing of a Conspicuous Product in a Recession that Freezes Capital Markets, *Journal of Economic Dynamics and Control*, **35**(1): 163-174.

HUSCHTO T., FEICHTINGER G., HARTL R.F., KORT P.M., SAGER S., SEIDL A.: Numerical solution of a conspicuous consumption model with constant control delay, *Automatica*, **47** (9): 1868-1877. Available as [Research Report 2010-11](#), ORCOS, TU Wien

KUHN M, WRZACZEK S, PRSKAWETZ A, FEICHTINGER G: Externalities in a life cycle model with endogenous survival. *Journal of Mathematical Economics* **47** (2011), 4 - 5; 627 - 641.

KUHN M, WRZACZEK S, PRSKAWETZ A, FEICHTINGER G: Optimal choice of health and retirement in a lifecycle model. *LEPAS Conference Proceedings*, <http://www.lepas-fp7.de/lepas-proc-2011-18.pdf>

G. FEICHTINGER, M KUHN, A. FÜRNKRANZ-PRSKAWETZ, S. WRZACZEK: The reproductive value as part of the shadow price of population. *Demographic Research*, Vol. 24 (2011), Article 28; S. 709 - 718.

## 2012

M. KUHN, S. WRZACZEK, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: Optimal choice of health and retirement in a life-cycle model; Bericht für Institute of Mathematical Methods in Economics (Research Unit on Economics); Working Paper 01/2012, 2012; 47 S. In Submission.

SIMON C, BELYAKOV AO, FEICHTINGER G. Minimizing the dependency ratio in a population with below-replacement fertility through immigration. *Theoretical Population Biology*. 2012 Nov;82(3):158-69. doi: 10.1016/j.tpb.2012.06.009. Available as [Research Report 2011-13](#), ORCOS, TU Wien.

FEICHTINGER, G., NOVAK, A., WRZACZEK, S (2012) Optimizing counter-terroristic operations in an asymmetric Lanchester model. IFAC Conference, Rimini, Italy, 2012. *Control Applications of Optimization*, 15(1), 27-32, doi: 10.3182/20120913-4-IT-4027.00056

G. FEICHTINGER, A. KRASOVSKII, A. PRSKAWETZ · V. M. VELIOV: Optimal age-specific election policies in two-level organizations with fixed size, *Central European Journal of Operations Research*, (2012) 20:649-677, DOI 10.1007/s10100-011-0197-4 Available as [Research Report 2012-05](#), ORCOS, TU Wien, 2012

RIOSMENA F., M. WINKLER-DWORAK, A. PRSKAWETZ, and G. FEICHTINGER. (2011) "The Impact of Policies Influencing the Demography of Age Structured Populations: Lessons from Academies of Science". *Genus* LXVII(2):29-59. DOI:10.4402/genus-401 Available as [Research Report 2012-08](#), ORCOS, TU Wien, 2012.

## 2013

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Leading Bureaucracies to the Tipping Point: An Alternative Model of Multiple Stable Equilibrium Levels of Corruption. *European Journal of Operational Research*. 225(3), 541-546., doi:10.1016/j.ejor.2012.10.026. Available as [Research Report 2011-05](#), ORCOS, TU Wien, 2011

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M. & SEIDL, A. 2013. When to Make Proprietary Software Open Source, *Journal of Economic Dynamics and Control*, 37(6), 1182-1194. doi:10.1016/j.jedc.2013.02.009 Available as [Research Report 2011-07](#), ORCOS, TU Wien

CAULKINS, J.P., FEICHTINGER, G., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Long Term Implications of Drug Policy Shifts: Anticipating and Non Anticipating Consumers. *Annual Reviews in Control*, 37(1), 105-115. doi:10.1016/j.arcontrol.2013.03.005. Available as [Research Report 2011-12](#), ORCOS, TU Wien.

F. WIRL, G. FEICHTINGER, P.M.KORT 2013: Individual Firm and Market Dynamics of CSR Activities, *Journal of Economic Behavior & Organization* Vol 86, 169-182. Available as [Research Report 2011-08](#), ORCOS, TU Wien.

G. FEICHTINGER, A. PRSKAWETZ, A. SEIDL, C. SIMON, S. WRZACZEK: Do Egalitarian Societies Boost Fertility?; *Research Report* 2013-05, ORCOS, TU Wien, 2013 ([full text in PDF-Format](#)). In Submission.

CAULKINS, J.P., FEICHTINGER, G., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Multiple Equilibria and Indifference-Threshold Points in a Rational Addiction Model. *Central European Journal of Operations Research*, 21(3), 507-522, DOI: 10.1007/s10100-012-0260-9.

## 2014

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., NOVAK, A., SEIDL, A. & WIRL, F. 2014. A Dynamic Analysis of Schelling's Binary Corruption Model: A Competitive Equilibrium Approach. *Journal of Optimization Theory & Applications*, 161(2), 608-625. doi: 10.1007/s10957-013-0420-7.

MOSER, E., SEIDL, A. & FEICHTINGER, G. 2013. History-Dependence in Production-Pollution-Trade-Off Models: A Multi-Stage Approach. *Annals of Operations Research* (2014) 222:457-481. doi: 10.1007/s10479-013-1349-9

## 2015

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M. & SEIDL, A. 2015. Skiba Points in Free End-time Problems, *Journal of Economic Dynamics and Control*, 51(1), 404-419. doi:10.1016/j.jedc.2014.11.003

M. KUHN, S. WRZACZEK, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: Optimal choice of health and retirement in a life-cycle model; *Journal of Economic Theory* 158(2015)186-212. DOI: 10.1016/j.jet.2015.04.006

CAULKINS, J.P., FEICHTINGER, G., OUARDIGHI F.: Accelerating Diffusion by Marketing-Operation Efforts. In Submission

J.P. CAULKINS, G. Feichtinger, A. Seidl, D. Grass, R.F. Hartl, P.M. Kort: Capital stock management during a recession that freezes credit markets. *Journal of Economic Behavior & Organization*, 116, 1-14. doi: 10.1016/j.jebo.2015.02.023. Available as Research Report 2013-06, ORCOS, TU Wien, 2013 ([full text in PDF-Format](#)).

STEINDL A, SEIDL A, and G. FEICHTINGER: Degenerated Hopf Bifurcations in a Demographic Diffusion Model. Ludwig Reich 75. A Tribute by Students, Colleagues and Friends. Harald Fripertinger, Wolfgang Prager, Jens Schwaiger, and Jörg Tomaschek (Eds.), Grazer Math.Ber., ISSN 1016-7692, Bericht Nr. 363 (2015), 42-58.

## 2016

SEIDL, A., KAPLAN, E.H., CAULKINS, J.P., WRZACZEK, S. & FEICHTINGER, G. 2016. Optimal Control of a Terror Queue Model, *Europ. Journal of Operations Research* 248(1), 246-256

A. SEIDL, S. WRZACZEK, F. EL OUARDIGHI, G. FEICHTINGER: Optimal Career Strategies and Brain Drain in Academia. *Research Report 2014-05*, ORCOS, TU Wien, 2014 ([full text in PDF-Format](#)) *Journal of Opt. Theory and Appl.* 2016, 168(1)268-295

TEMPLIN, T., SEIDL, A., WICKSTRÖM, B.A., FEICHTINGER, G. 2016. Optimal Language Policy for the Preservation of a Minority Language, *Mathematical Social Sciences*, 81(1), 8-21. doi:10.1016/j.mathsocsci.2016.03.006

H. DAWID, K. DÖRNER, G. FEICHTINGER, P.M. KORT, A. SEIDL (eds.):

\* Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl. in Buchreihe "Dynamic Modeling and Econometrics in Economics and Finance", Buchreihen-Herausgeber: W. Semmler, S. Mitnik; Springer International Publishing, 2016, ISBN: 978-3-319-39118-2, 527 S.

A. NOVAK, G. FEICHTINGER, G. LEITMANN: On the Optimal Trade-Off Between Fire Power and Intelligence in a Lanchester Model; in: *Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl*, Springer International Publishing Switzerland, 2016, ISBN: 978-3-319-39118-2, S. 217 - 231.

E. MOSER, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER, B. BARAKAT: Maximizing Female Labor Force Participation in a Stationary Population; in: *Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl*, Springer International Publishing Switzerland, 2016, ISBN: 978-3-319-39118-2; S. 167 - 188.

F. EL OUARDIGHI, G. FEICHTINGER, D. GRASS, R.F. HARTL, P. KORT: Autonomous and advertising-dependent 'word of mouth' under costly dynamic pricing; *European Journal of Operational Research*, 251 (2016), S. 860 - 872.

EL OUARDIGHI, F., FEICHTINGER, G., GRASS, D., HARTL, R. F., & KORT, P. M. (2016). Advertising and Quality-Dependent Word-of-Mouth in a Contagion Sales Model. *Journal of Optimization Theory and Applications*, 170 (1), 323-342.

## 2017

WRZACZEK, S., KAPLAN, E.H., CAULKINS, J.P., SEIDL, A. & FEICHTINGER, G. 2017. Differential Terror Queue Games, *Dynamic Games and Applications*, 7(4): 578-593.  
[doi 10.1007/s13235-016-0195-1](https://doi.org/10.1007/s13235-016-0195-1)

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., SEIDL, A. 2017. Interaction of Pricing, Advertising and Experience Quality: A Dynamic Analysis. *European Journal of Operational Research*, 256(3), 877-885  
[doi:10.1016/j.ejor.2016.06.056](https://doi.org/10.1016/j.ejor.2016.06.056)

M. SANCHEZ-ROMERO, D. EDIEV, G. FEICHTINGER, A. PRSKAWETZ: How many old people have ever lived? *Demographic Research*, 36(54), 1667-1702.  
[doi: 10.4054/DemRes.2017.36.54](https://doi.org/10.4054/DemRes.2017.36.54)

F. EL OUARDIGHI, G. FEICHTINGER, G. FRUCHTER: Accelerating the diffusion of innovations under mixed word of mouth through marketing-operations interaction. *Annals of Operations Research*, (2017). [doi: 10.1007/s10479-017-2649-2](https://doi.org/10.1007/s10479-017-2649-2)

G. FEICHTINGER et al.: Kontrolltheorie und Differentialspiele in Österreich.  
ÖGOR Arbeitskreis "Optimal Control and Dynamic Games"  
[https://orcoss.tuwien.ac.at/oegor/entwicklungen\\_in\\_der\\_kontrolltheorie/](https://orcoss.tuwien.ac.at/oegor/entwicklungen_in_der_kontrolltheorie/)

G. FEICHTINGER, A. PRSKAWETZ, A. SEIDL, C. SIMON, S. WRZACZEK: A Bifurcation Analysis of Gender Equality and Fertility. *Journal of Evolutionary Economics*, 27 (5), 1221-1243. [doi.org/10.1007/s00191-017-0534-4](https://doi.org/10.1007/s00191-017-0534-4)

## 2018

\* G. FEICHTINGER, R.M. KOVACEVIC, G. TRAGLER: Control Systems and Mathematical Methods in Economics. Essays in Honor of Vladimir M. Veliov. Springer 2018. [doi 10.1007/978-3-319-75169-6](https://doi.org/10.1007/978-3-319-75169-6)

M. KRESS, J.P. CAULKINS, G. FEICHTINGER, D. GRASS, A. SEIDL, (2018). Lanchester model for three-way combat. *European Journal of Operational Research*, 264 (1), 46-54. [doi.org/10.1016/j.ejor.2017.07.026](https://doi.org/10.1016/j.ejor.2017.07.026)

G. FEICHTINGER,, A. PRSKAWETZ, M. SÁNCHEZ-ROMERO, S. WRZACZEK, (2018). Does Demography Change Wealth Inequality? In *Control Systems and Mathematical Methods in Economics*, 687:349-375.  
[doi.org/10.1007/978-3-319-75169-6\\_17](https://doi.org/10.1007/978-3-319-75169-6_17)

## 2019

G. FEICHTINGER, M. WINKLER-DWORAK, D. GRASS: Mathematics of ageing: Linking demography and operations research to study the greying of academia.  
[ORCOS Research Report 2019-03](#).  
CEJOR, <https://doi.org/10.1007/s10100-019-00661-w>

G. FEICHTINGER : Disparitäten in Wissenschaftskarrieren.  
[ORCOS Research Report 2019-06](#). OR News Nr. 65/April 2019, 6-13

Y. YEGOROV, D. GRASS, M. MIRESCU, G. FEICHTINGER, F. WIRL. 2019. Growth and Collapse of Empires: A Dynamic Optimization Model.  
[ORCOS Research Report 2019-02](#). JOTA 186(2), 620-643, August 2020.  
<https://doi.org/10.1007/s10957-020-01719-5>

G. FEICHTINGER, D. GRASS, P.M. KORT: Optimal scientific production over the life cycle. Research Report 2018-09, ORCOS, TU Wien.  
*Journal of Economic Dynamics and Control*, 108 (2019) 103752  
<https://doi.org/10.1016/j.jedc.2019.103752>

## 2020

G. FEICHTINGER, P.M. KORT, D. GRASS, A. SEIDL: On the Matthew Effect in research careers. [ORCOS Res Rep 2020-01](#)  
*Journal of Economic Dynamics and Control*, 2021, 104058  
<https://doi.org/10.1016/j.jedc.2020.104058>

Y. YEGOROV, F. WIRL, D .GRASS, M. EIGRUBER, G. FEICHTINGER: On the Matthew effect on individual investments into skills in arts, sports and science. [ORCOS Res Rep 2020-05](#)  
Submitted to JEBO.

D. GRASS, G. FEICHTINGER, P. M. KORT, A. SEIDL: Why (some) abnormal problems are 'normal' (IIASA-FB), [ORCOS Research Report 2020-06](#)  
*Systems & Control Letters*, 2021, [doi.org/10.1016/j.sysconle.2021.104971](https://doi.org/10.1016/j.sysconle.2021.104971)

A. SEIDL, R.F. HARTL, P. M. KORT, G. FEICHTINGER: Optimal investments with a self-financing constraint.

RÉGIS Y. CHENAVAZ, G. FEICHTINGER, R. F. HARTL, P. M. KORT: Modeling the impact of product quality on dynamic pricing and advertising policies. *European Journal of Operational Research*, 284 (2020) 990-1001,  
<https://doi.org/10.1016/j.ejor.2020.01.035>

A. NOVAK, G. FEICHTINGER: Accumulation and obsolescence of research knowledge.  
[ORCOS Research Report 2020-08](#).  
CJOR, 2021, [DOI 10.1007/s10100-021-00755-4](https://doi.org/10.1007/s10100-021-00755-4)

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, PETER M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: How Long Should the COVID-19 Lockdown Continue? [ORCOS Research Report 2020-10](#)  
*PLoS ONE* 15(2020)12. [DOI: 10.1371/journal.pone.0243413](https://doi.org/10.1371/journal.pone.0243413).

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, PETER M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: The optimal lockdown intensity for COVID-19. [ORCOS Research Report 2020-11](#)  
*Journal of Mathematical Economics*, 2021,  
<https://doi.org/10.1016/j.jmateco.2021.102489>

G. FEICHTINGER, A. NOVAK, F. WIRL: Institutional change, education and population growth: lessons from dynamic modelling. [ORCOS Research Report 2020-14](#).  
In Book *Dynamic Economic Problems with Regime Switches*, 2020, pp 37-56. Editors: Josef L. Haunschmied, Raimund M. Kovacevic, Willi Semmler, Vladimir M. Veliov.  
[Doi 10.1007/978-3-030-54576-5\\_2](https://doi.org/10.1007/978-3-030-54576-5_2)

## 2021

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: COVID-19 and optimal lockdown strategies: The effect of new and more virulent strains. [ORCOS Research Report 2021-01](#), and [ECON WPS - Working Papers in Economic Theory and Policy](#) 02/2021  
In: Boado-Penas M.C., Eisenberg J., Şahin Ş. (eds) *Pandemics: Insurance and Social Protection*, 2021 (pp. 163-190). Springer Actuarial. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-78334-1\\_9](https://doi.org/10.1007/978-3-030-78334-1_9)

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: Schwedischer Weg oder chinesisches Modell?  
*Demographische Forschung Aus Erster Hand*, 18 (2021), 1. Quartal.

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, M. KUHN, A. PRSKAWETZ, M. SANCHEZ-ROMERO; A. SEIDL, S. WRZACZEK.  
The hammer and the jab: Are COVID-19 lockdowns and vaccinations complements or substitutes?  
Submitted to *EJOR*

## 2022

G. FEICHTINGER, D. GRASS, R. F. HARTL, P. M. KORT, A. SEIDL: The digital economy and advertising diffusion models: critical mass and the stalling equilibrium.  
[submitted]

Y. YEGOROV, F. WIRL, D. GRASS, M. EIGRUBER, G. FEICHTINGER: On the Matthew Effect on Individual Investments in Skills in Arts, Sports and Science. Published in JEBO-D-20-01586R3 <https://doi.org/10.1016/j.jebo.2022.02.008>

G. FEICHTINGER, L. LAMBERTINI, G. LEITMANN, S. WRZACZEK: Managing the tragedy of commons and polluting emissions: A unified view. Published in: The European Journal of Operational Research 303 (2022) 487-499 <https://doi.org/10.1016/j.ejor.2022.02.034>

A. NOVAK, G. FEICHTINGER: Accumulation and Obsolescence of Research Knowledge. Published in: The Central European Journal of Operations Research, Vol 30, December 2022. <https://doi.org/10.1007/s10100-021-00755-4>

## 2023

G. FEICHTINGER, D. GRASS, M. KUHN, K. PETTNER, A. PRSKAWETZ: Resurrecting Economic Growth? Human Capital Accumulation as an Antidote to Depopulation

G. FEICHTINGER, R. RAU, A.J. NOVAK: On the Momentum of Pseudostable Populations Vienna Institute of Demography: Working Papers 01/2023.  
<https://doi.org/10.1553/0x003e187b>: Published in Demographic Research, vol.52, article 15, pp 445 - 478, March 2025 <https://doi.org/10.4054/DemRes.2025.52.15>

G. FEICHTINGER, D. GRASS, P. M. KORT, A.J. NOVAK, A. SEIDL, S. WRZACZEK: How Hartl Exceeds Skiba: Determination of a Successful Career in Academia: Published in The Central European Journal of Operational Research, Oct 2023. DOI:10.1007/s10100-023-00889-7

G. FEICHTINGER, D. GRASS, R.F. HARTL, P.M. KORT, A. SEIDL: The Digital Economy and Advertising Diffusion Models: Critical Mass and the Stalling Equilibrium: The European Journal of Operational Research, Elsevier, vol. 318(3), pages 966-978. DOI: 10.1016/j.ejor.2024.05.043

## 2024

G. FEICHTINGER, S. WRZACZEK: The Optimal Momentum of Population Growth and Decline. Published in Theoretical Population Biology 155: 51 - 66, 8 January 2024. DOI 10.1016/j.tpb.2023.12.002.

G. FEICHTINGER, S. WRZACZEK: The optimal transition to a stationary population for concentrated vitality rates: Published in Demographic Research, Vol.50. Article 6, pp171 - 184, 19 January 2024 <http://www.demographic-research.org/Volumes/Vol50/6/> DOI: 10.4054/DemRes.2024.50.6

- T. FENT, S. WRZACZEK, G. FEICHTINGER, A. NOVAK: Fertility decline and age-structure in China and India. VID Working Paper 01/2024, Vienna, Austria. Available at: <https://epub.oeaw.ac.at/?arp=0x003f0d14>
- S. WRZACZEK, G. FEICHTINGER, T. FENT, A. NOVAK: *To grow or to fluctuate: Optimal paths to demographic equilibria*. IIASA Working Paper. Laxenburg, Austria: WP-24-008.
- 2025**
- R. NECK, D GRASS, S WRZACZEK, G. FEICHTINGER: Democracy between anarchy and dictatorship: A fragile balance, Preprint 22 January 2025
- T. FENT, G. FEICHTINGER, S WRZACZEK, A NOVAK: Stationary-through-immigration Populations: b A model based pivot point of demographic change, preprint 14 February 2025, submitted to Demographic Research
- F. EL OUARDIGHI, G. FEICHTINGER, Editors, The Unaffordable Price of Static Decision making Models, Challenges in Economics and Management Science, Springer Press, International Series in Operations Research and Management Science, 11 August 2025, Hardcover ISBN 978-3-031-88637-9; eBook ISBN 978-3-031-88638-6
- G. FEICHTINGER, D. GRASS, R.F. HARTL, P.M.KORT, A. SEIDL, S. WRZACZEK: Environmental management of shallow lakes facing a possible catastrophe, 17 February 2025, submitted to Journal of Environmental Economics and Management
- G. FEICHTINGER, P.M. KORT, A. SEIDL, F. WIRL, S. WRZACZEK: Dynamic pricing when consumption develops habit and/or satiation: farsighted vs myopic customers.
- D. DRAGONE, G. FEICHTINGER, D. GRASS, R. HARTL, P.M. KORT, A. SEIDL, S. WRZACZEK: Obesity, Sedentary Behavior and Lifestyle: A Lifecycle Model of Eating and Physical Activity.
- M: SANCHEZ-ROMERO, T. SOBOTKA, G. FEICHTINGER, A. PRSKAWETZ, S. WRZACZEK: Future Births: A Formal Perspective on Humanity's Yet-to-Be-Born Generations.
- J. P. CAULKINS, D. GRASS, G. M. CAMPEDELLI, G. FEICHTINGER, R. PRIETO-CURIEL, G. TRAGLER, S. WRZACZEK: Narrow corridors and weak Skiba curves: Finding multiple equilibria amidst lethal cartel violence.
- R. PRIETO-CURIEL, D. GRASS, S. WRZACZEK, G. M. CAMPEDELLI, G. TRAGLER, G. FEICHTINGER: Reducing cartel violence: The Mexican dilemma between social and security spending.

**List of Publications**  
**Gustav Feichtinger**

\* Book or Journal Issue

**1967**

Über die Anzahl aller nichtisomorphen transitiven Automaten von Primzahlordnung.  
*Elektronische Informationsverarbeitung und Kybernetik* **3**, 275-282.

Beiträge zur Theorie abstrakter Automaten. *Elektronische Datenverarbeitung* **8**, 361-366.

Über isomorphe Unterautomaten in abstrakten Automaten. *Elektronische Datenverarbeitung* **9**, 411-415.

**1968**

Der Quotientenautomat nach einem direkten Faktor einer Automorphismengruppe.  
*Computing* **3**, 1-8.

Zur Theorie abstrakter stochastischer Automaten. *Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete* **9**, 341-356.

Automatentheorie und dynamische Programmierung. *Elektronische Informationsverarbeitung und Kybernetik* **4**, 347-352.

Eine automatentheoretische Deutung des einelementigen Lernmodells der Stimulus Sampling Theorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 3-19.

Ein automatentheoretischer Zugang zu Lernprozessen. *Kybernetik* **5**, 85-88.

Zur mathematischen Lerntheorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 39-47.

**1969**

Stochastische Automaten als Grundlage linearer Lernmodelle. *Statistische Hefte* **10**, 5-21.

Optimale Darbietungen (Lernstrategien) zweier Items in der statistischen Lerntheorie.  
*Elektronische Informationsverarbeitung und Kybernetik* **5**, 109-125.

Ein Markoffsches Lernmodell für Zwei-Personen-Spiele. *Elektronische Datenverarbeitung* **7**, 322-325.

Anwendungen der Automatentheorie auf Lernprozesse. 2. Internationaler Kongreß  
*Datenverarbeitung im europäischen Raum*, 17-21.

Endliche stochastische Automaten als Modelle in den Verhaltenswissenschaften.  
*Seminarbericht 17 des Instituts für Theorie der Automaten und Schaltnetzwerke, GMD Bonn*.

**1970**

\* *Lernprozesse in stochastischen Automaten*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **24**, Springer, Berlin.

Einige Resultate aus der Bevölkerungsmathematik. In: R. Henn (Ed.), 'Operations Research Verfahren VIII'. Hain, Meisenheim, 89-106.

Über ein Entscheidungsproblem in der Erziehungsplanung. *Unternehmensforschung* **14**, 140-151.

Kybernetische Begriffe und Arbeitsweisen in der Lerntheorie. *Zeitschrift für experimentelle und angewandte Psychologie* **17**, 37-51.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen. *Statistische Hefte* **12**, 14-21.

BAYES-Automaten. *Elektronische Informationsverarbeitung und Kybernetik* **6**, 371-379.

Über Automatenmodelle in der statistischen Lerntheorie. *Kybernetik* **6**, 237-242.

Gekoppelte stochastische Automaten und sequentielle Zwei-Personen-Spiele. *Unternehmensforschung* **14**, 249-258.

Bemerkungen zum Thema Astrologie und Statistik. *Philosophia Naturalis* **12**, 104-115.

## 1971

\* *Stochastische Modelle demographischer Prozesse*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **44**, Springer, Berlin.

"Wahrscheinlichkeitslernen" in der statistischen Lerntheorie. *Metrika* **18**, 35-55.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen bei Ungewißheit. *Statistische Hefte* **12**, 14-21.

Stochastische Automaten mit stetigem Zeitparameter. *Angewandte Informatik* **4**, 156-164.

Über Lernprozesse mit variabler Transitionsstruktur in Entscheidungssituationen bei Ungewißheit. *Jahrbücher für Nationalökonomie und Statistik* **186**, 14-28.

Absorbing Markov chains in population mathematics. *Proceedings of the 38th Session of the International Statistical Institute*, Washington, D.C.

Markoff-Modelle zur sozialen Mobilität. *Jahrbuch für Sozialwissenschaft* **22**, 300-316.

Automatentheoretische Lernmodelle. *Umschau in Wissenschaft und Technik* **71**, 166.

Bevölkerungswissenschaft vor neuen Problemen. *Umschau in Wissenschaft und Technik* **71**, 596-597.

## 1972

Über Sinn und Ziel der Kybernetik. In: J. Meurers (Hrsg.), 'Philosophia naturalis 13'. Hain, Meisenheim, 185-190.

Über die Kovarianzen von Maximum Likelihood-Schätzungen gewisser Parameter bei multiplen Dekrementtafeln. *Mathematische Operationsforschung und Statistik* **3**, 217-226.

Über ein N-elementiges Modell der Reiz-Stichproben-Theorie mit stetigem Zeitparameter und zwei Antwortklassen. *Metrika* **18**, 94-109.

Stochastische Dekrementmodelle der Bevölkerungsstatistik. *Biometrische Zeitschrift* **14**, 106-125.

Zur Bayes-Analyse statistischer Entscheidungsprobleme. *Zeitschrift für Betriebswirtschaft* **7**, 42. Jg.

Neue Entwicklungen der formalen Demographie I. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **5**, 23-29.

Neue Entwicklungen der formalen Demographie II. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **6**, 53-64.

Stochastische Prozesse im Lichte ihrer Anwendungen. *Angewandte Informatik* **3**, 104-114.

### 1973

\* *Bevölkerungsstatistik*. de Gruyter, Berlin.

Markovian models for some demographic processes. *Statistische Hefte* **4**, 311-334.

Bemerkungen über lineare Modelle der Populationsdynamik. In: R. Henn (Ed.), '*Operations Research-Verfahren XV*'. Hain, Meisenheim, 40-62 (with M. Deistler).

On the linear stochastic model in population dynamics. *Proceedings of the 39th Session of the International Statistical Institute* **4**, 301-306 (with M. Deistler).

### 1974

OR-Modelle sozio-demographischer Prozesse. In: P. Gessner et al., '*Proceedings in Operations Research 3*'. Physica, Würzburg, 195-229.

Bemerkungen über stochastische Modelle der Straffälligkeit. *Allgemeines Statistisches Archiv* **58**, 198-221.

Einblicke in bevölkerungsmathematische Modelle und deren Anwendungsmöglichkeiten. *Jahrbuch für Sozialwissenschaft* **25**, 86-105.

Stochastische Modelle des Manpower Planning. *Antrittsvorlesung an der TH Wien*, Nr. **42**, TH Wien.

Von der Bevölkerungsstatistik zur demographischen Forschung. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **13**, 15-36.

Nullwachstum der Bevölkerung frühestens in 100 Jahre. *Umschau in Wissenschaft und Technik* **74**, 551-552.

The linear model formulation of a multitype branching process applied to population dynamics. *Journal of the American Statistical Association* **69**, 662-664 (with M. Deistler).

Über ein Verzweigungsprozeßmodell zur Trägheit des Bevölkerungswachstums. Paper des Instituts für Ökonometrie und Operations Research, Universität Bonn (with M. Deistler).

## 1975

Bemerkungen über Wahrscheinlichkeitsmodelle für rekurrente demographische Prozesse. *Zeitschrift für Bevölkerungswissenschaft* 3/4, 57-72.

Weltbevölkerungsjahr, -Konferenz und - Aktionsplan 1974. *Jahrbuch für Sozialwissenschaft* 26, 123-137.

Die demographische Revolution. *Österreichische Gesellschaft für Familienplanung*, Jahrestagung in Igls.

Nullwachstum der Bevölkerung im linearen populationsdynamischen Modell. *Zeitschrift für Bevölkerungswissenschaft* 2, 39-53 (with M. Deistler).

## 1976

Are economically dependent groups likely to become a significant larger proportion of the population as a whole? In: 'Proceedings of the Colloque on the Changing Population Structures in Europe and Rising Social Costs'. Council of Europe, Strasbourg.

Some economic consequences of declining fertility in the Federal Republic of Germany. In: 'Les Methodes d'Analyse en Demographie Economique, Dossiers et recherches 1'. Institut National d'Etudes Demographiques, Paris.

Stabile Populationsdynamik. In: R. Henn (Ed.), 'Operations Research Verfahren XXV'. Hain, Meisenheim, 434-442.

On the generalization of stable age distributions to Gani-type manpower models. *Advances in Applied Probability* 8, 433-445.

The recruitment trajectory corresponding to particular stock sequences in Markovian person-flow models. *Mathematics of Operations Research* 1, 175-184 (with A. Mehlmann).

## 1977

\* *Stationäre und schrumpfende Bevölkerungen. Demographisches Null- und Negativwachstum in Österreich. Lecture Notes in Economics and Mathematical Systems*, Vol. 149, Springer, Berlin (Ed.).

Ursachen und Konsequenzen des Geburtenrückgangs. In: 'Soziale Probleme der modernen Industriegesellschaft'. Arbeitstagung des Vereins für Socialpolitik in Augsburg 1976. Duncker & Humblot, Berlin, 393-434.

Methodische Probleme der Familienlebenszyklus-Statistik. In: H. Albach, Helmstädtner und R. Henn (Ed.), 'Quantitative Wirtschaftsforschung'. Wilhelm Krelle zum 60. Geburtstag, Mohr, Tübingen.

Bevölkerung. In: W. Albers et al. (Ed.), 'Handwörterbuch der Wirtschaftswissenschaft (HdWW)'. G. Fischer, Stuttgart, 610-631.

Bevölkerungsmodelle. *Allgemeines Statistisches Archiv* 4, 325-348.

Aussichten für das Erwerbspotential und den Anteil wirtschaftlich abhängiger Personen in europäischen Bevölkerungen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 2.

The impact of mortality on the life cycle of the family in Austria. *Zeitschrift für Bevölkerungswissenschaft* 4, 51-79 (with H. Hansluwka).

Bevölkerungsschrumpfung in Österreich. Konsequenzen rückläufiger Fruchtbarkeit für die demographische Entwicklung. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 3 (with J. Muzicant).

## 1978

Optimales Wachstum stabiler Bevölkerungen in einem neoklassischen Modell. *Zeitschrift für Bevölkerungswissenschaft* 1, 63-73 (with M. Deistler, M. Luptacik and A. Wörgötter).

Analyse der Fertilitätsentwicklung in Österreich nach Heiratsjahrgängen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 5 (with A. Haslinger).

Pseudostabile Bevölkerungen: Populationsdynamik bei gleichmäßig sinkender Fertilität. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* 4 (with H. Vogelsang).

Zur demographischen Translation I. Beziehungen zwischen Perioden- und Kohortenmessung demographischer Prozesse. Forschungsbericht 12 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

Population Dynamics with Declining Fertility. I and II. Forschungsbericht 15 und 16 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

## 1979

\* *Demographische Analyse und populationsdynamische Modelle: Grundzüge der Bevölkerungsmathematik*. Springer, Wien.

Cohort trends in the timing of the family life cycle in Austria and West-Germany. In: J. Dupâquier et al. (Eds.), 'Historische Demographie'. Paris.

Optimale intertemporale Allokationen mittels des Maximumprinzips. In: J. Schwarze et al. (Eds.), 'Proceedings in Operations Research' 9'. Physica, Würzburg, 484-489.

Analyse des Familienzyklus auf demographischer Basis. In: 'Bericht über die Situation der Familie in Österreich'. Familienbericht 1, Bundeskanzleramt Wien.

Von sinkender zu steigender Fertilität: Bevölkerungsdynamik bei einer Trendumkehr der Fruchtbarkeit. *Zeitschrift für Bevölkerungswissenschaft* 3, 327-340.

Zum Begriff "Schwung des Bevölkerungswachstums". *Jahrbücher für Nationalökonomie und Statistik* 194, 399-400.

Exponentielle Niveau- und Musteränderung der Fertilität. Eine Analyse mittels stabiler Vergleichsbevölkerungen. *Zeitschrift für Bevölkerungswissenschaft* 1, 31-63 (with H. Vogelsang).

## 1980

Optimale Politiken in kontrolltheoretischen Instandhaltungsmodellen. Forschungsbericht 25 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

## 1981

Optimale Allokation von Ausbildung und Berufsausübung in einem nichtlinearen Kontrollmodell. *Zeitschrift für Operations Research* 25, 25-34.

Optimierung von Instandhaltungsinvestitionen, Produktionsintensität und Nutzungsdauer maschinellder Produktionsanlagen: Anwendungen der Kontrolltheorie in der Instandhaltungs- und Produktionsplanung. In: K. Brockhoff und W. Krelle (Eds.), 'Unternehmensplanung'. Springer, Berlin, 213-234.

A noncooperative solution of a simple pollution differential game. Forschungsbericht 34 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Nash-Lösungen zustandsseparabler Nichtnullsummen Differentialspiele. Forschungsbericht 41 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Ein nichtlineares Kontrollproblem der Instandhaltung. *OR-Spektrum* 3, 49-58 (with R.F. Hartl).

## 1982

\* *Optimal Control Theory and Economic Analysis*. First Viennese Workshop on Economic Applications of Control Theory, Vienna, October 28 - 30, 1981, North-Holland, Amsterdam (Ed.).

Saddle-point analysis in a price-advertising model. *Journal of Economic Dynamics and Control* 4, 319-340.

Optimal repair policy for a machine service problem. *Optimal Control Applications and Methods* 3, 15-22.

Optimal pricing in a diffusion model with nonlinear price-dependent market potential. *Operations Research Letters* 1, 236-240.

Anwendungen des Maximumprinzips im Operations Research. Teil 1 und 2. *OR-Spektrum* 4, 171-190, 195-212.

The Nash solution of a maintenance-production differential game. *European Journal of Operational Research* 10, 165-172.

Optimal research policies in a noncooperative project undertaken by two firms. In: G. Feichtinger (Hrsg.), 'Optimal Control Theory and Economic Analysis'. North-Holland, Amsterdam, 373-397.

Optimal bimodal harvest policies in age-specific bioeconomic models. In: G. Feichtinger und P. Kall (Eds.), 'Operations Research in Progress'. Reidel, Dordrecht, 285-299.

Ein Differentialspiel für den Markteintritt einer Firma. In: B. Fleischmann et al. (Eds.), 'Operations Research Proceedings 1981'. Springer, Berlin, 636-644.

\* *Operations Research in Progress*. Reidel, Dordrecht (with P. Kall, Eds.).

## 1983

Optimale dynamische Preispolitik bei drohender Konkurrenz. *Zeitschrift für Betriebswirtschaft* 53, 155-177.

The Nash solution of an advertising differential game: Generalization of a model by Leitmann and Schmitendorf. *IEEE Transactions on Automatic Control* AC-28, 1044-1048.

A differential games solution to a model of competition between a thief and the police. *Management Science* **29**, 686-699.

Pseudostabile Bevölkerungen. In: S. Rupp und K. Schwarz (Eds.), *Beiträge aus der bevölkerungswissenschaftlichen Forschung*. Festschrift für Hermann Schubnell, Schriftenreihe des Bundesinstituts für Bevölkerungsforschung **11**, 535-544.

Differential game models in management science. *European Journal of Operational Research* **14**, 137-155 (with S. Jorgensen).

Eine Fruchtbarkeitstafel auf Paritätsbasis. *Zeitschrift für Bevölkerungswissenschaft* **3**, 363-376 (with W. Lutz).

## 1984

Optimal employment strategies of profit-maximizing and labour-managed firms. *Optimal Control Applications and Methods* **5**, 235-253.

On the synergistic influence of two control variables on the state of nonlinear optimal control models. *Journal of Operational Research Society* **35**, 907-914.

On optimal control models for the dynamics of the firm. In: R. Henn (Eds.), 'Methods of Operations Research' **51**'. Hain, Athenäum.

A note to Jorgensen's logarithmic advertising differential game. *Zeitschrift für Operations Research* **28**, B 133-B 153 (with E.J. Dockner).

Strategic Advertising and Price Management under Dynamic Conditions. Forschungsbericht **76** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

Hiring/Firing vs Overtime/Short-Time Working in a Dynamic Firm. Forschungsbericht **72** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

Alterstrukturreffekt bei der Schätzung schließlicher Paritätsverteilungen. In: C. Höhn et al. (Eds.), 'Demographie in der Bundesrepublik Deutschland'. Festschrift für Karl Schwarz. Boppard, H. Boldt (with W. Lutz).

Lagerhaltungs- und Beschäftigungsstrategien einer Firma. *OR-Spektrum* **6**, 93-107 (with A. Steindl).

## 1985

\* *Optimal Control Theory and Economic Analysis* 2. Second Viennese Workshop on Economic Applications of Control Theory, Vienna, May 16 - 18, 1984, North-Holland, Amsterdam (Ed.).

Optimal modification of machine reliability by maintenance and production. *OR-Spektrum* **7**, 43-50.

Optimal pricing in a duopoly: a noncooperative differential games solution. *Journal of Optimization Theory and Applications* **45**, 199-218 (with E.J. Dockner).

Optimal pricing and production in an inventory model. *European Journal of Operational Research* **19**, 45-56 (with R.F. Hartl).

On the use of Hamiltonian and maximized Hamiltonian in non-differentiable control theory. *Journal of Optimization Theory and Applications* **46**, 493-504 (with R.F. Hartl).

Tractable classes of nonzero-sum open-loop Nash differential games: theory and examples. *Journal of Optimization Theory and Applications* **45**, 179-197 (with E.J. Dockner and S. Jorgensen).

Ein dynamisches Mischungsproblem. Forschungsbericht **79** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger).

## 1986

Production-pollution cycles. Forschungsbericht **95** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Periodic optimal control: can oscillations be optimal in autonomous economic control models? In: W. Domschke et al. (Eds.), 'Methods of Operations Research' **57**. Athenäum, Königstein, 349-366.

Dynamic advertising and pricing in an oligopoly: a Nash equilibrium approach. *Journal of Economic Dynamics and Control* **10**, 37-39 (with E.J. Dockner).

On the Value of Information in Dynamic Games of R & D. Forschungsbericht **85** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner and A. Mehlmann).

\* *Optimale Kontrolle ökonomischer Prozesse: Anwendungen des Maximumprinzips in den Wirtschaftswissenschaften*. de Gruyter, Berlin (with R.F. Hartl).

The dynamic Averch-Johnson effect revisited. Forschungsbericht **83** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

On the optimality of cyclical employment policies: a numerical investigation. *Journal of Economic Dynamics and Control* **10**, 457-466 (with R.F. Hartl, G. Sorger and A. Steindl.).

Planning the unusual: applications of control theory to nonstandard problems. *Acta Applicandae Mathematicae* **7**, 79-102 (with A. Mehlmann).

On the exploitation of curious resources. In: M.J. Beckmann et al. (Eds.), 'Methods in Operations Research' **54**. Hain, Athenäum, 127-145 (with A. Mehlmann).

Optimal oscillations in control models: how can constant demand lead to cyclical production? *Operations Research Letters* **5**, 277-281 (with G. Sorger).

Optimale Dauer und Verteilung von Arbeitspausen. Forschungsbericht **97** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger and A. Novak).

## 1987

Limit cycles in economic control models. In: R. Bulirsch et al. (Eds.), 'Optimal Control'. Proceedings of the Conference on Optimal Control and Variational Calculus Oberwolfach, West-Germany, June 15-21, 1986. Springer, Berlin, 46-55.

Intertemporal optimization of wine consumption at a party: an unusual optimal control model. In: G. Gandolfo and F. Marzano (Eds.), 'Keynesian Theory Planning Models and Quantitive Economics'. Essays in Memory of Vittorio Marrama, Vol. II. Giuffre, Milano, 777-797.

Zur Anwendung der Kontrolltheorie auf die Optimierung ökonomischer Prozesse. In: Th. Fischer (Ed.), '*Betriebswirtschaftliche Systemforschung und ökonomische Kybernetik*'. Duncker & Humblot, Berlin, 271-289.

The statistical measurement of the family life cycle: table methods for analyzing the tempo and structure of the family life cycle. In: J. Bongaarts (Hrsg.), '*Family Demography: Methods and Their Applications*'. Clarendon Press, Oxford, 81-101.

A new sufficient condition for most rapid approach paths. *Journal of Optimization Theory and Applications* **54**, 403-411 (with R.F. Hartl).

Optimal production and abatement policies of a firm. *European Journal of Operational Research* **29**, 274-285 (with M. Luptacik).

Optimal employment and wage policies of a monopolistic firm. *Journal of Optimization Theory and Applications* **53**, 59-83 (with M. Luptacik).

Intertemporal sharecropping: a differential game approach. In: G. Bamberg and K. Spremann (Eds.), '*Agency Theory, Information and Incentives*'. Springer, Berlin, 415-438 (with G. Sorger).

## 1988

\* *Optimal Control Theory and Economic Analysis 3*. Third Viennese Workshop on Optimal Control Theory and Economic Analysis, Vienna, May 20 - 22, 1987, North-Holland, Amsterdam (Ed.).

Optimal persistent oscillations and adjustment costs. In: P. Flaschel and M. Krüger (Eds.), '*Recent Approaches to Economic Dynamics*'. P. Lang, Frankfurt, 119-131.

Ein dynamisches Modell des Intensitätssplittings. *Zeitschrift für Betriebswirtschaft* **11**, 1242-1258 (with K.-P. Kistner and A. Luhmer).

Optimal price and advertising policy in convenience goods retailing. *Marketing Science* **7**, 187-201 (with A. Luhmer and G. Sorger).

ADPULS in continuous time. *European Journal of Operational Research* **34**, 171-177 (with A. Luhmer, A. Steindl, R.F. Hartl and G. Sorger).

Periodic research and development. In: G. Feichtinger (Ed.), '*Optimal Control Theory and Economic Analysis 3*'. Third Viennese Workshop on Optimal Control Theory and Economic Analysis, Vienna, May 20 - 22, 1987. North-Holland, Amsterdam, 121-141 (with G. Sorger).

## 1989

Demographische Prognosen und populationsdynamische Modelle. In: B. Felderer (Hrsg.), '*Bevölkerung und Wirtschaft*'. Duncker & Humblot, Berlin, 71-92.

On cyclical inventory and marketing decisions. In: U. Rieder et al., '*Methods of Operations Research*' **62**. Hain, Meisenheim, 387-388 (with E.J. Dockner).

A note on optimal redistributive taxation. Forschungsbericht **119** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

Noncooperative solutions for a differential game model of fishery. *Journal of Economic Dynamics and Control* **13**, 1-20 (with E.J. Dockner and A. Mehmann).

Self-generated fertility waves in a non-linear continuous overlapping generations model.  
*Journal of Population Economics* **2**, 267-280 (with G. Sorger).

## 1990

Optimal periodic policies in dynamic economic systems. *National Contribution of Austria*.  
IFORS 1990, Athen. In: H.E. Bradley (Ed.), 'Operational Research '90'. Pergamon Press, Oxford, 771-782.

Capital accumulation, endogenous population growth, and Easterlin cycles. *Journal of Population Economics* **3**, 73-87 (with E.J. Dockner).

Oligopolistisches Preismanagement bei Lerneffekten und Überkapazitäten. *Zeitschrift für Betriebswirtschaft* **1**, 7-19 (with E.J. Dockner).

Interaction of price and advertising under dynamic conditions. In: K.-P. Kistner et al. (Eds.), 'Operations Research Proceedings 1989'. Springer, Berlin, 547-554 (with E.J. Dockner and G. Sorger).

Capital accumulation, aspiration adjustment, and population growth: limit cycles in an Easterlin-type model. *Mathematical Population Studies* **2**, 93-103 (with G. Sorger).

## 1991

On the optimality of limit cycles in dynamic economic systems. *Journal of Economics* **53**, 31-50 (with E.J. Dockner).

\* *Methods of Operations Research: OR 1990, International Conference on Operations Research 1990 in Vienna*. Anton Hain, Frankfurt (with R.F. Hartl, W. Janko, W.E. Katzenberger and A. Stepan, Eds.).

Cyclical production and marketing decisions: application of Hopf bifurcation theory. *International Journal of Systems Science* **22**, 1035-1046 (with E.J. Dockner and A. Novak).

Zyklen beim Schilift. Forschungsbericht **138** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with W. Herold and P. Zinner).

A note on the optimal use of environmental resources by an indebted country. *Journal of Institutional and Theoretical Economics* **147**, 547-555 (with A. Novak).

Politico-economic cycles of regulation and deregulation. *European Journal of Political Economy* **7**, 469-485 (with F. Wirl).

## 1992

\* *Dynamic Economic Models and Optimal Control*. North-Holland, Amsterdam (Ed.).

Hopf bifurcation in an advertising diffusion model. *Journal of Economic Behavior & Organisation* **17**, 401-411.

Rational addictive cycles ('binges') under a budget constraint. *Optimal Control Applications and Methods* **13**, 95-104.

Optimal control of economic systems. In: S. Tzafestas (Ed.), 'Automatic Control Handbook'. M. Dekker, New York, 1023-1044.

Limit cycles in dynamic economic systems. In: G. Feichtinger and R.F. Hartl (Eds.), '*Nonlinear Methods in Economic Dynamics and Optimal Control*'. Annals of Operations Research **37**. Baltzer, Basel, 313-344.

Nonlinear threshold dynamics: Further examples for chaos in social sciences. In: G. Haag, U. Mueller and K.G. Troitzsch (Eds.), '*Economic Evolution and Demographic Change, Formal Models in Social Sciences: Formal Models in Social Sciences*'. Lecture Notes in Economics and Mathematical Systems **395**. Springer, Berlin, 141-154.

A nonlinear dynamical model on the arms race. Forschungsbericht **145** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with D. Behrens).

\* *Operations Research Proceedings: Papers of the International Conference on Operations Research 1990*. Springer, Berlin (with W. Bühler, R.F. Hartl, F.J. Radermacher and P. Stähly).

Does society gain from the actions of environmentalists? Forschungsbericht **143** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

\* *Nonlinear Methods in Economic Dynamics and Optimal Control*. Annals of Operations Research **37**, Baltzer, Basel (with R.F. Hartl, Eds.).

Optimal recycling of tailings for the production of building materials. *Czechoslovak Journal for Operations Research* **1**, 181-192 (with R.F. Hartl and G.T. Kirakossian).

Stable resource-employment limit cycles in an optimally regulated fishery. In: G. Feichtinger (Ed.), '*Dynamic Economic Models and Optimal Control*'. North-Holland, Amsterdam, 163-184 (with V. Kaitala and A. Novak).

A note on the optimal exploitation of migratory fish stocks. *Dynamics and Control* **2**, 255-263 (with A. Novak).

Optimal consumption, training, working time and leisure over the life cycle. *Journal of Optimization Theory and Applications* **75**, 369-388 (with A. Novak).

Seltsames Verhalten nichtlinearer demographischer Prozesse. *Acta Demographica*, 131-156 (with A. Prskawetz).

Immigration into a population with fertility below replacement level - the case of Germany. *Population Studies* **46**, 275-284 (with G. Steinmann).

## 1993

Strange addictive behaviour: Periodic and chaotic binges. In: W.E. Diewert, K. Spremann and F. Stehling (Eds.), '*Mathematical Modelling in Economics*'. Essays in Honor of Wolfgang Eichhorn. Springer, Berlin, 149-162.

Complex solutions of dynamic optimization models. Forschungsbericht **167** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Cyclical consumption patterns and rational addiction. *American Economic Review* **83**, 256-263 (with E.J. Dockner).

Dynamic R & D competition with memory. *Journal of Evolutionary Economics* **3**, 145-152 (with E.J. Dockner and A. Mehlmann).

Chaos in nonlinear dynamical systems exemplified by an R & D model. *European Journal of Operational Research* **68**, 145-159 (with M. Kopel).

Optimal treatment of cancer diseases. *International Journal of Systems Science* **24**, 1253-1263 (with A. Novak).

A dynamic variant of the battle of the sexes. *International Journal of Game Theory* **22**, 359-380 (with F. Wirl).

#### 1994

Optimal complex dynamics in environmental economics. *Proceedings of International Conference of Dynamical Systems and Chaos*, Tokyo. World Scientific.

Environmentalists versus resources exploiters: a dynamic game analysis. In: G.L. Paredes V. (Ed.), *International Symposium on Systems Analysis and Management Decisions in Forestry*. Universidad Austral of Chile Press, 392-398 Valdivia (with E.J. Dockner).

Nonconcavity and proper optimal periodic control. *Journal of Economic Dynamics and Control* **18**, 975-990 (with M. Han and R.F. Hartl).

Dynamic optimal control models in advertising: recent developments. *Management Science* **40**, 195-226 (with R.F. Hartl and S.P. Sethi).

Chaos in a simple deterministic queueing system. *Zeitschrift für Operations Research* **40**, 109-119 (with C.H. Hommes and W. Herold).

Complex dynamics in a threshold advertising model. *OR-Spektrum* **16**, 101-111 (with C.H. Hommes and A. Milik).

Nichtlineare dynamische Systeme und Chaos: Neue Impulse für die Betriebswirtschaftslehre? *Zeitschrift für Betriebswirtschaft* **64**, 7-34 (with M. Kopel).

Differential game model of the dynastic cycle: 3-D canonical system with a stable limit cycle. *Journal of Optimization Theory and Applications* **80**, 407-423 (with A. Novak).

Optimal pulsing in an advertising diffusion model. *Optimal Control Applications and Methods* **15**, 267-276 (with A. Novak).

How stock-dependent flow rates imply chaos in educational planning. *Mathematical Population Studies* **5**, 75-85 (with A. Novak).

Limit cycles in intertemporal adjustment models - theory and applications. *Journal of Economic Dynamics and Control* **18**, 353-380 (with A. Novak and F. Wirl).

Endogenous population growth and the exploitation of renewable resources. *Mathematical Population Studies* **5**, 87-106 (with A. Prskawetz and F. Wirl).

A nonlinear model of population growth and renewable resources. *Chaotische Nachrichten* **31**, 16-21 (with A. Prskawetz and F. Wirl).

On the stability and potential cyclicity of corruption in governments subject to popularity constraints. *Mathematical Social Sciences* **28**, 113-131 (with F. Wirl).

#### 1995

On the optimal trade-off between consumption and pollution. *Izvestiya of the Academy of Sciences. Control Theory and Systems* **6**, 235-239.

Complex optimal policies in an advertising diffusion model. *Chaos, Solitons and Fractals* **5**, 45-53 (with H. Dawid).

Optimal resource exploitation may be chaotic. *Central European Journal for Operations Research and Economics* **3**, 111-122 (with H. Dawid and G. Tragler).

Chaotic behavior in an advertising diffusion model. *International Journal of Bifurcation and Chaos* **5**, 255-263 (with L.L. Ghezzi and C. Piccardi).

Bifurcations of love: the passionate-avoiding couple. Forschungsbericht **196** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with A. Gragnani).

Slow-fast limit cycles in controlled drug markets. *Proceedings of 3rd European Control Conference* **4**, 3031-3034 (with A. Gragnani and S. Rinaldi).

Habit formation with threshold adjustment: addiction may imply complex dynamics. *Journal of Evolutionary Economics* **5**, 157-172 (with W. Herold, A. Prskawetz and P. Zinner).

Rationalität und komplexes Verhalten. *Homo oeconomicus und Chaos - Ein Widerspruch?* *Zeitschrift für Betriebswirtschaftliche Forschung* **6**, 545-557 (with M. Kopel).

Resource leasing and optimal periodic capital investments. *Zeitschrift für Operations Research* **42**, 47-67 (with A. Novak and V. Kaitala).

Endogenous population growth may imply chaos. *Journal of Population Economics* **8**, 59-80 (with A. Prskawetz).

Persistent cyclical consumption: variations on the Becker-Murphy model of addiction. *Rationality and Society* **7**, 156-166 (with F. Wirl).

## 1996

Chaos theory in Operations Research. *International Transactions of Operations Research* **3**, 23-36.

Crime and punishment: a dynamic approach. Forschungsbericht **195** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Optimal allocation of drug control efforts: a differential game analysis. *Journal of Optimization Theory and Applications* **91**, 279-297 (with H. Dawid).

On the persistence of corruption. *Journal of Economics* **64**, 177-193 (with H. Dawid).

Economic crimes and law enforcement: a differential game. Forschungsbericht **204** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Dawid and S. Jorgensen).

Despotism and anarchy in ancient China: Visualizing the dynastic cycle. *Jahrbuch für Wirtschaftswissenschaften* **47**, 1-13 (with G. Fischel, E. Gröller and A. Prskawetz).

A nonlinear dynamical model for the dynastic cycle. *Chaos, Solitons and Fractals* **7**, 257-271 (with C. Forst and C. Piccardi).

The Geometry of Wonderland. *Chaos, Solitons and Fractals* **7**, 1989-2006 (with E. Gröller, R. Wegenkittl, A. Milik, A. Prskawetz and W.C. Sanderson).

Slow-fast dynamics in Wonderland. *Environmental Modeling and Assessment* **1**, 3-17 (with A. Milik, A. Prskawetz and W.C. Sanderson).

Persistent oscillations in a threshold adjustment model. *Mathematical Modelling of Systems* **2**, 197-211 (with A. Novak).

### 1997

Komplexe Dynamik in den Sozialwissenschaften. In: F. Stadler (Hrsg.), *Wissenschaft als Kultur. Österreichs Beitrag zur Moderne*. Springer, Wien, 197-214.

Complex dynamics and control of arms race. *European Journal of Operational Research* **100**, 192-215 (with D. Behrens and A. Prskawetz).

Complex solutions of nonconcave dynamic optimization models. *Economic Theory* **9**, 427-439 (with H. Dawid and M. Kopel).

Indeterminacy of open-loop Nash equilibria: The ruling class versus the tabloid press. In: H.G. Natke and Y. Ben-Haim (Eds.), *Uncertainty: Models and Measures*. Akademie-Verlag, Berlin, 124-136 (with H. Dawid, A. Novak and F. Wirl).

Non-linear dynamics and predictability in the Austrian stock market. In: Ch. Heij et al. ed., *System Dynamics in Economic and Financial Models*. Wiley, Chichester, 43-70 (with E.J. Dockner and A. Prskawetz).

Cyclic dynamics in romantic relationships. *International Journal of Bifurcations and Chaos* **7**, 2611-2619 (with A. Gragnani and S. Rinaldi).

Dynamics of drug consumption: a theoretical model. *Socio-Economic Planning Science* **31**, 127-137 (with A. Gragnani and S. Rinaldi).

Chaotic consumption patterns in a simple 2-D addiction model. *Economic Theory* **10**, 147-173 (with C.H. Hommes and A. Milik).

Einfache dynamische Werbestrategien im Kampf um Marktanteile. *Marketing Zeitschrift für Forschung und Praxis* **4**, 221-231 (with M. Kopel and F. Wirl).

### 1998

Optimale Kontrolle des Drogenkonsums. *OR News* **3**, 6-12 (with D. Behrens and G. Tragler).

Solution techniques for periodic control problems: a case study in production planning. *Optimal Control Applications and Methods* **19**, 185-203 (with C. Büskens and H. Maurer).

Periodic and chaotic programs of intertemporal optimization models with non-concave net benefit function. *Journal of Economic Behavior & Organization* **33**, 435-447 (with H. Dawid and M. Kopel).

Optimal enforcement policies (crackdowns) on an illicit drug market. *Optimal Control Applications and Methods* **19**, 169-184 (with R.F. Hartl, J.L. Haunschmied and P. Kort).

The accomplishment of the Maastricht criteria with respect to initial debt. *Journal of Economics* **68**, 93-110 (with M. Luptacik and A. Prskawetz).

A model on the escape from the Malthusian trap. *Journal of Population Economics* **11**, 535-550 (with A. Prskawetz and G. Steinmann).

Corruption dynamics in democratic societies. *Complexity* **3**, 53-64 (with S. Rinaldi and F. Wirl).

## 1999

Dynamic economic models of optimal law enforcement. In: U. Leopold-Wildburger, G. Feichtinger, K.-P. Kistner, *Modelling and Decisions in Economics. Essays in Honor of Franz Ferschl*. Springer, Heidelberg, 269-293.

Variances of population projections: Comparison of two approaches. IIASA Report IR-99-063 (with D. Bauer, W. Lutz, W. Sanderson).

A dynamic model of drug initiation: Implications for treatment and drug control. *Mathematical Biosciences* **159**, 1-20 (with D. Behrens, J.P. Caulkins, J.L. Haunschmied and G. Tragler).

\* *Optimal Control and Differential Games*. Annals of Operations Research **88** (with H. Dawid and R.F. Hartl).

\* *Nonlinear Dynamical Systems and Adaptive Methods*. Annals of Operations Research **89** (with H. Dawid and R.F. Hartl).

Optimal offending in view of the offender's criminal record. *Central European Journal of Operations Research* **7**, 111-127 (with T. Fent and M. Zalesak).

Optimal firm investment in security. *Annals of Operations Research* **88**, 81-98 (with J.L. Haunschmied and P.M. Kort).

Endogenous growth of population and income depending on resource and knowledge. *European Journal of Population* **14**, 305-331 (with F.X. Hof, M. Luptacik, W. Lutz, A. Milik, A. Prskawetz and F. Wirl).

Petrarch's "Canzoniere": Rational addiction and amorous cycles. *Journal of Mathematical Sociology* **23**, 225-240 (with S. Jorgensen and A. Novak).

Threshold advertising rules in a duopoly framework. *Central European Journal of Operations Research* **7**, 39-52 (with M.Kopel and F. Wirl).

## 2000

BAVEJA A. - G. FEICHTINGER - R.F. HARTL - J.L. HAUNSCHMIED - P.M. KORT: A resource-constrained optimal control model for crackdown on illicit drug markets. *Journal of Mathematical Analysis and Applications* **249**, 53-79.

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Optimal control of drug epidemics: prevent and treat - but not at the same time? *Management Science* **46**, 333-347.

BORISOV V. - G. FEICHTINGER - A. KRYAZHIMSKII: Optimal enforcement on a pure seller's market of illicit drugs. *Journal of Optimization Theory and Applications* **106**, 1-22.

CAULKINS J.P. - M. DWORAK - G. FEICHTINGER - G. TRAGLER: Price-raising drug enforcement and property crime: a dynamic model. *Journal of Economics* **71**, 227-253.

DAWID H. - G. FEICHTINGER - S. JORGENSEN: Crime and law enforcement: A multistage game. In: J.A. Filar, V. Gaitsgory, K. Mizukami (Ed.), *Advances in Dynamic Games and Applications*. Birkhäuser, Boston, 341-35.

FEICHTINGER G.: The Control of Age-Structured Populations: A Dynamic Cost-Benefit Approach. Forschungsbericht 236 des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien. Prepared for the Age Structured Transitions and Policy Implications, IUSSP/APN Meeting in Phuket, Thailand.

FEICHTINGER G.: On the economics of corruption and illicit drugs. *Applications of Mathematics and Statistics in Economy* 6, 21-26.

FEICHTINGER G. - F. WIRL: Instabilities in concave, dynamic, economic optimization. *Journal of Optimization Theory and Applications* 107, 277-288.

PRSKAWETZ A. - G. STEINMANN - G. FEICHTINGER: Human capital, technological progress and the demographic transition. *Mathematical Population Studies* 7, 343-363.

## 2001

ALMEDER C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Age-specific multi-stage drug initiation models: insights from considering heterogeneity. *Bulletin on Narcotics* LIII, 105-118.

BEHRENS D.A. - G. FEICHTINGER - G. TRAGLER: Wer nicht lernen will, muß fühlen! *OR-News* 13, 5-9.

CAULKINS J.P. - R.F. HARTL - G. TRAGLER - G. FEICHTINGER: Why politics makes strange bedfellows: dynamic model with DNS curves. *Journal of Optimization Theory and Applications* 111, 237-254.

\* DAWID H. - G. FEICHTINGER - R.F. HARTL (Eds.): *Nonlinear Dynamics: Theory and Economic Applications*. Special Issue of *Central European Journal of Operations Research* 9, 1-2.

FEICHTINGER G.: Optimal control of law enforcement. In: F. Udwadia, A. Kryazhimskii and G. Leitmann, *Advances in Dynamics and Control*. Gordon & Breach Science Publ., London, 151-160.

FEICHTINGER G.: Environmental policy design and the economics of crime: some analogies in intertemporal optimization. In: P. Kischka, U. Leopold-Wildburger, R.H. Möhring, F.-J. Radermacher (Eds.), *Models, Methods and Decision Support for Management. Essays in Honor of Paul Stähly*. Physica, Heidelberg, 23-47.

\* FEICHTINGER G. - R.F. HARTL - P. KORT (Eds.): *Economic Applications of Optimal Control*. Special Issue of *Optimal Control Applications and Methods* 22, 5/6.

FEICHTINGER G. - R.F. HARTL - P. KORT - A. NOVAK: Terrorism control in the tourism industry. *Journal of Optimization Theory and Applications* 108, 283-296.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - F. WIRL: The dynamics of a simple relative adjustment cost framework. *German Economic Review* 2, 255-268.

GREINER A. - G. FEICHTINGER - J.L. HAUNSCHMIED - P.M. KORT - R.F. HARTL: Optimal periodic development of a pollution generating tourism industry. *European Journal of Operational Research* 134, 582-591.

TRAGLER G. - J.P. CAULKINS - G. FEICHTINGER: Optimal dynamic allocation of treatment and enforcement in illicit drug control. *Operations Research* 49, 352-362.

## 2002

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Why present-oriented societies undergo cycles of drug epidemics. *Journal of Economic Dynamics and Control* **26**, 919-936.

DAWID H. - G. FEICHTINGER - A. NOVAK: Extortion as an obstacle to economic growth: a dynamic game analysis. *European Journal of Political Economy* **18**, 499-516.

DWORAK M. - F. WIRL - A. PRSKAWETZ - G. FEICHTINGER: Optimal long-run budgetary policies subject to the Maastricht criteria or a stability pact. *Macroeconomic Dynamics* **6**, 665-686.

\* FEICHTINGER G. - R. GISSEK - J. KYTIR (Hg.): Demographie im interdisziplinären Kontext. Festschrift 25 Jahre Institut für Demographie der Österreichischen Akademie der Wissenschaften.

FEICHTINGER G. - W. GRIENAUER - G. TRAGLER: Optimal dynamic law enforcement. *European Journal of Operational Research* **141**, 58-69.

\* FEICHTINGER G. - R.F. HARTL - S. JORGENSEN (Eds.): *International Game Theory Review*. Special Issue of *Differential Game Applications* **4**, 1.

FEICHTINGER G. - G. TRAGLER: Multiple equilibria in an optimal control model for law enforcement. *Proceedings of the Steklov Institute of Mathematics* **236**, 449-460 (American Mathematical Society).

FEICHTINGER G. - G. TRAGLER: Skiba thresholds in optimal control of illicit drug use. In: G. Zaccour (Ed.), *Optimal Control and Differential Games*. Essays in Honor of Steffen Jorgensen. Kluwer Academic Publ., Boston, 3-21.

FENT T. - G. FEICHTINGER - G. TRAGLER: A dynamic game of offending and law enforcement. *International Game Theory Review* **4**, 71-89.

KORT P.M. - A. GREINER - G. FEICHTINGER - J.L. HAUNSCHMIED - A. NOVAK - R.F. HARTL: Environmental effects of tourism industry investments: an intertemporal trade-off. *Optimal Control Applications and Methods* **23**, 1-19.

LUTZ W. - S. SCHERBOV - A. PRSKAWETZ - M. DWORAK - G. FEICHTINGER: Population, natural resources, and food security: lessons from comparing full and reduced-form models. *Population and Development Review* **28**, Bd. 2, Supplement 199-224.

PICCARDI C. - G. FEICHTINGER: Peak-to-Peak dynamics in the dynastic cycle. *Chaos, Solitons and Fractals* **13**, 195-202.

WIRL F. - G. FEICHTINGER: Intrafamiliar consumption and saving under altruism and wealth considerations. *Economica* **69**, 93-111.

## 2003

\* FEICHTINGER G.: *Vienna Yearbook of Population Research*. Verlag der Österreichischen Akademie der Wissenschaften, Wien.

FEICHTINGER G. - G. TRAGLER - V.M. VELIOV: Optimality conditions for age-structured control systems. *Journal of Mathematical Analysis and Applications* **288**, 47-68.

HARTL R.F. - P. KORT - G. FEICHTINGER: Offense control taking into account heterogeneity of age. *Journal of Optimization Theory and Applications* **116**, 591-620.

HAUNSCHMIED J.L. - P.M. KORT - R.F. HARTL - G. FEICHTINGER: A DNS-curve in a two-state capital accumulation model: a numerical analysis. *Journal of Economic Dynamics and Control* **27**, 701-716.

PRSKAWETZ A. - M. WINKLER-DWORAK - G. FEICHTINGER: Production, distribution and insecurity of food: a dynamic framework. *Structural Change and Economic Dynamics* **14**, 317-337.

PRSKAWETZ A. - A. GRAGNANI - G. FEICHTINGER: Reconsidering the dynamic interaction of renewable resources and population growth: a focus on long-run sustainability. *Environmental Modeling and Assessment* **8**, 35-45.

## 2004

ALMEDER C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: An age-structured single-state drug initiation model - cycles of drug epidemics and optimal prevention programs. *Socio-Economic Planning Sciences* **38**, 91-109.

\* BARNETT W.A. - C. DEISSENBERG - G. FEICHTINGER (Ed): *Economic Complexity: Non-linear Dynamics, Multi-Agents Economies, and Learning*. Elsevier, Amsterdam, 1-467.

BEHRENS D.A. - J.P. CAULKINS - G. FEICHTINGER: A model of chaotic drug markets and their control. *Journal of Nonlinear Dynamics, Psychology and Life Sciences* **8**, 373-399.

DEISSENBERG C. - G. FEICHTINGER - W. SEMMLER - F. WIRL: Multiple equilibria, history dependence, and global dynamics in intertemporal optimisation models. In: W.A. Barnett, C. Deissenberg, G. Feichtinger, *Economic Complexity: Non-linear Dynamics, Multi-Agents Economies, and Learning*. Elsevier, Amsterdam, 91-122.

FEICHTINGER G.: Multiple equilibria in optimal control models - A research program. In: Feichtinger G., K.-P. Kistner, C. Schneeweiss, OR, Economics and Statistics *Central European Journal of Operations Research* **12**, Special Issue 2. Essays in Honor of Franz Ferschl. Physica, Heidelberg, 157-169.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V. VELIOV: Dynamic investment behavior taking into account ageing of the capital goods. In: F.E. Udwadia, H.I. Weber, G. Leitmann (ed.), *Dynamical Systems and Control*. Chapman & Hall/CRC, London, 379-391.

\* FEICHTINGER G. - K.-P. KISTNER - C. SCHNEEWEISS: OR, Economics and Statistics. *Central European Journal of Operations Research* **12**, Special Issue 2. Essays in Honor of Franz Ferschl. Physica, Heidelberg, 105-230.

FEICHTINGER G. - A. PRSKAWETZ - V. VELIOV: Age-structured optimal control in population economics. *Theoretical Population Biology* **65**, 373-387.

FEICHTINGER G. - W. SANDERSON - V.M. VELIOV: The optimal mix of medication and prevention: dynamics and control of the HIV/AIDS epidemics in Botswana. *IFORS Newsletter for Developing Countries* **12**, 6-7.

FEICHTINGER G. - G. TRAGLER: Ein dynamischer Kosten-Nutzen-Ansatz zur Drogenabhängigkeit. In: F. Treter, B. Erbas, G. Sonntag (Hrsg.), *Ökonomie der Sucht und Suchttherapie*. Pabst Sci. Publ., Lengerich, 373-394.

FEICHTINGER G. - T. TSACHEV - V.M. VELIOV: Maximum principle for age and duration structured systems: a tool for optimal prevention and treatment of HIV. *Mathematical Population Studies* **11**, 3-28.

\* FEICHTINGER G. - V.M. VELIOV (Eds.): *Age-Structured Models in Population Dynamics and Economics*. Special Issue of *Mathematical Population Studies* **11**, 3-4.

HARTL R.F. - P.M. KORT - G. FEICHTINGER - F. WIRL: Multiple equilibria and thresholds due to relative investment costs. *Journal of Optimization Theory and Applications* **123**, 49-82.

STEINDL A. - G. FEICHTINGER: Bifurcations to periodic solutions in a production/inventory model. *Journal of Nonlinear Science* **14**, 469-503.

## 2005

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: A model of moderation: finding Skiba points on a slippery slope. *Central European Journal of Operations Research* **13**, 45-64.

CAULKINS J.P. - G. FEICHTINGER - M. JOHNSON - G. TRAGLER - Y. YEGOROV: Skiba thresholds in a model of controlled migration. *Journal of Economic Behavior & Organisation* **57**, 490-508.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - M. JOHNSON - G. TRAGLER - Y. YEGOROV: Placing the poor while keeping the rich in their place: separating strategies for optimally managing residential mobility and assimilation. *Demographic Research* **13**, 1-34.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V.M. VELIOV: Environmental policy, the Porter hypothesis and the composition of capital: effects of learning and technological progress. *Journal of Environmental Economics and Management* **50**, 434-446.

GAVRILA C. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER - R.F. HARTL: Managing the reputation of an award to motivate performance. *Mathematical Methods of Operations Research* **61**, 1-22.

GAVRILA C. - G. FEICHTINGER - G. TRAGLER - R.F. HARTL - P.M. KORT: History-dependence in a rational addiction model. *Mathematical Social Sciences* **49**, 273-293.

LEVY A. - G. FEICHTINGER: A theory of random-lifetime-rational junk-food consumption. *Central European Journal of Operations Research*.

WIRL F. - G. FEICHTINGER: History dependence in concave economies. *Journal of Economic Behavior & Organisation* **57**, 390-407.

## 2006

CAULKINS J.P. - G. FEICHTINGER - C. GAVRILA - A. GREINER - J.L. HAUNSCHMIED - P.M. KORT - G. TRAGLER: Dynamic cost-benefit analysis of drug substitution programs? *Journal of Optimization Theory and Applications* **128**: 279-294.

CAULKINS J.P. - G. FEICHTINGER - J.L. HAUNSCHMIED - G. TRAGLER: Quality cycles and the strategic manipulation of value. *Operations Research* **54**: 666-677.

CAULKINS J.P. - A. GRAGNANI - G. FEICHTINGER - G. TRAGLER: High and low frequency oscillations in drug epidemics. *International Journal of Bifurcation and Chaos* **16**: 3275-3289.

FEICHTINGER, G. - R.F. HARTL - P.M. KORT - V. VELIOV: Anticipation effects of technological progress on capital accumulation: a vintage capital approach. *Journal of Economic Theory* **126**: 143-164.

FEICHTINGER G. - HARTL R.F. - P.M. KORT - V.M. VELIOV: Capital accumulation under technological progress and learning: a vintage capital approach. *European Journal of Operational Research* **172**: 293-310.

FEICHTINGER G. - A. STEINDL: DNS curves in a production/inventory model. *Journal of Optimization Theory and Applications* **128**: 295-308.

FEICHTINGER G. - G. TRAGLER - D.A. BEHRENS: Optimale Kontrolle des Drogenkonsums. *OR News*, Sonderausgabe, 105-110.

FEICHTINGER G. - M. WINKLER-DWORAK - I. FREUND - A. PRSKAWETZ: Zur Altersdynamik Gelehrter Gesellschaften - dargestellt am Beispiel der ÖAW. *Anzeiger der philosophisch-historischen Klasse* **141**, 43-74. Verlag der Österreichischen Akademie der Wissenschaften, Wien.

HAUNSCHMIED J.L. - G. FEICHTINGER - R.F. HARTL - P.M. KORT: Keeping up with the technology pace: a DNS-curve in a limit cycle in a technology investment decision problem. *Journal of Economic Behavior & Organization* **57**: 509-529.

KORT P.M. - J.P. CAULKINS - R.F. HARTL - G. FEICHTINGER: Brand image and brand dilution in the fashion industry. *Automatica* **42**: 1363-1370.

WIRL F. - G. FEICHTINGER: History versus expectations: increasing returns or social influence? *The Journal of Socio-Economics* **35**: 877-888.

## 2007

ALMEDER C. - G. FEICHTINGER - W.C. SANDERSON - V.M. VELIOV: Prevention and medication of HIV/AIDS - the case of Botswana. *Central European Journal of Operations Research* **15**: 47-61.

BEHRENS D.A. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Incentive Stackelberg strategies for a dynamic game on terrorism. In: Jørgensen S. - Quincampoix M. - Vincent T.L. (eds.): *Advances in Dynamic Game Theory and Application. Numerical Methods, Algorithms, and Applications to Ecology and Economics* (Annals of the International Society of Dynamic Games 9), Birkhäuser, Boston, 223-253.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Bifurcating DNS thresholds in a model of organizational bridge building. *Journal of Optimization Theory and Applications* **133**: 19-35.

CAULKINS J.P. - G. FEICHTINGER - G. TRAGLER - V. VELIOV: Cycles of violence: A dynamic control analysis. *European Journal of Operational Research* **181**: 350-361.

CAULKINS J.P. - R.F. HARTL - P.M. KORT - G. FEICHTINGER: Explaining fashion cycles: Imitators chasing innovators in product space. *Journal of Economic Dynamics and Control* **31**: 1535-1556.

FEICHTINGER G.: Dynamik und Steuerung von Populationen in konstanter Größe. In: Ch. Höhn, J. Dorbritz (Hrsg.): Demographischer Wandel – Wandel der Demographie. Festschrift für Karl Schwarz. Schriftenreihe des Bundesinstituts für Bevölkerungsforschung, Band 37: 95-122.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - Y. YEGOROV: A new solution property in optimal control: the lens. *Automatica* **43**: 744-747.

FEICHTINGER G. - V.M. VELIOV: On a distributed control problem arising in dynamic optimization of a fixed-size population. *Siam Journal on Optimization* **18**: 980-1003.

FEICHTINGER G. - M. WINKLER-DWORAK - I. FREUND - A. PRSKAWETZ - F. RIOSMENA: On the age dynamics of learned societies - Taking the example of the Austrian Academy of Sciences. *Vienna Yearbook of Population Research*: 107-132.

KUHN M. - A. PRSKAWETZ - S. WRZACZEK - G. FEICHTINGER: Health, survival and consumption over the life cycle: Individual versus social optimum and the role of externalities. *Rostocker Zentrum zur Erforschung des Demografischen Wandels. Diskussionspaper* **16**.

## 2008

BULTMANN R. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: Modeling supply shocks in optimal control models of illicit drug consumption. In *Lecture Notes in Computer Sciences* **4818**: 285-292, Springer, Heidelberg.

BULTMANN R. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER: How should policy respond to disruptions in markets for illegal drugs? *Contemporary Drug Problems*. **35**(203): 371-395.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Optimizing counter-terror operations: should one fight with "Fire" or "Water"? *Computer and Operations Research* **35**: 1874-1885.

FEICHTINGER G. - R.F. HARTL - P.M. KORT - V.M. VELIOV: Financially constrained capital investments: the effects of disembodied and embodied technological progress. *Journal of Mathematical Economics* **44**: 459-483.

FEICHTINGER G. - A.J. NOVAK: Terror and counterterror operations: differential game with cyclical Nash solution. *Journal of Optimization Theory and Applications* **139**: 541-556.

GRASS D. - J.P. CAULKINS - G. FEICHTINGER - G. TRAGLER - D.A. BEHRENS: *Optimal Control of Nonlinear Processes. With Applications in Drugs, Corruption, and Terror*. Springer, Berlin.

## 2009

BEHRENS D.A. - J.P. CAULKINS - G. TRAGLER - G. FEICHTINGER: Memory, contagion, and capture rates: characterizing the types of addictive behavior that are prone to repeated epidemics. Forthcoming in *Mathematical Biosciences*.

CAULKINS J.P. - G. FEICHTINGER - D. GRASS - G. TRAGLER: Optimal control of terrorism and global reputation. A case study with novel threshold behavior. *OR Letters* **37**(6): 387-391.

DAWID H. - G. FEICHTINGER - J.R. GOLDSTEIN - V.M. VELIOV: Keeping a learned society young. *Demographic Research* **20**(22): 541-558.

GAVRILA C. - H. POLLACK - P.M. KORT - G. FEICHTINGER - G. TRAGLER: Optimal control of methadone treatment in preventing blood-borne disease. Forthcoming in *Medical Decision Making*.

## 2010

CAULKINS J.P. - G. FEICHTINGER - G. TRAGLER - D. WALLNER: When in a drug epidemic should the policy objective switch from use reduction to harm reduction? *European Journal of Operational Research* **201**: 308-318.

FEICHTINGER G. - A.J. NOVAK - V.M. VELIOV: Applying the Leitmann-Stalford sufficient conditions to maximization control problems with non-concave Hamiltonian. *Applied Mathematics and Computation* **217**(3): 1017-1022. [Research Report 2010-02](#), ORCOS, TU Wien

NOVAK A.J. - G. FEICHTINGER - G. LEITMANN: A differential game related to terrorism: Nash and Stackelberg strategies. *Journal of Optimization Theory and Applications* **144**(3): 533-555.

VELIOV V.M., H. DAWID, E. DOCKNER, R.F. HARTL, J. HAUNSCHMIED, U. LEOPOLD-WILDBURGER, M. LUPTACIK, A. MEHLMANN, A. PRSKAWETZ, M. RAUNER, G. SORGER, G. TRAGLER: Special issue in honour of Gustav Feichtinger - Gustav Feichtinger celebrates his 70-th birthday. *Central European Journal of Operations Research* **18**(4): 437-451.

WIRL F., G. FEICHTINGER: Modelling Social Dynamics (of Obesity)and Thresholds: *Games* **2010**(1): 395-414.

WRZACZEK S., M KUHN, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: The reproductive value in distributed optimal control models. *Theoretical Population Biology* **77** (3): 164 - 170.

CAULKINS J. P., GRASS D., FEICHTINGER G., TRAGLER G.: Optimizing counter-terror operations. IFAC Workshop on Supplemental Ways for Improving International Stability, Kosovo (2010), *International Stability* **8**(1)

## 2011

CAULKINS J.P., FEICHTINGER G., GRASS D., HARTL R.F., KORT P.M. & SEIDL, A. 2011. Optimal Pricing of a Conspicuous Product in a Recession that Freezes Capital Markets, *Journal of Economic Dynamics and Control*, **35**(1): 163-174.

HUSCHTO T., FEICHTINGER G., HARTL R.F., KORT P.M., SAGER S., SEIDL A.: Numerical solution of a conspicuous consumption model with constant control delay, *Automatica*, **47** (9): 1868-1877. Available as [Research Report 2010-11](#), ORCOS, TU Wien

KUHN M, WRZACZEK S, PRSKAWETZ A, FEICHTINGER G: Externalities in a life cycle model with endogenous survival. *Journal of Mathematical Economics* **47** (2011), 4 - 5; 627 - 641.

KUHN M, WRZACZEK S, PRSKAWETZ A, FEICHTINGER G: Optimal choice of health and retirement in a lifecycle model. *LEPAS Conference Proceedings*, <http://www.lepas-fp7.de/lepas-proc-2011-18.pdf>

G. FEICHTINGER, M KUHN, A. FÜRNKRANZ-PRSKAWETZ, S. WRZACZEK: The reproductive value as part of the shadow price of population. *Demographic Research*, Vol. 24 (2011), Article 28; S. 709 - 718.

## 2012

M. KUHN, S. WRZACZEK, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: Optimal choice of health and retirement in a life-cycle model; Bericht für Institute of Mathematical Methods in Economics (Research Unit on Economics); Working Paper 01/2012, 2012; 47 S. In Submission.

SIMON C, BELYAKOV AO, FEICHTINGER G. Minimizing the dependency ratio in a population with below-replacement fertility through immigration. *Theoretical Population Biology*. 2012 Nov;82(3):158-69. doi: 10.1016/j.tpb.2012.06.009. Available as [Research Report 2011-13](#), ORCOS, TU Wien.

FEICHTINGER, G., NOVAK, A., WRZACZEK, S (2012) Optimizing counter-terroristic operations in an asymmetric Lanchester model. IFAC Conference, Rimini, Italy, 2012. *Control Applications of Optimization*, 15(1), 27-32, doi: 10.3182/20120913-4-IT-4027.00056

G. FEICHTINGER, A. KRASOVSKII, A. PRSKAWETZ · V. M. VELIOV: Optimal age-specific election policies in two-level organizations with fixed size, *Central European Journal of Operations Research*, (2012) 20:649-677, DOI 10.1007/s10100-011-0197-4 Available as [Research Report 2012-05](#), ORCOS, TU Wien, 2012

RIOSMENA F., M. WINKLER-DWORAK, A. PRSKAWETZ, and G. FEICHTINGER. (2011) "The Impact of Policies Influencing the Demography of Age Structured Populations: Lessons from Academies of Science". *Genus* LXVII(2):29-59. DOI:10.4402/genus-401 Available as [Research Report 2012-08](#), ORCOS, TU Wien, 2012.

## 2013

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Leading Bureaucracies to the Tipping Point: An Alternative Model of Multiple Stable Equilibrium Levels of Corruption. *European Journal of Operational Research*. 225(3), 541-546., doi:10.1016/j.ejor.2012.10.026. Available as [Research Report 2011-05](#), ORCOS, TU Wien, 2011

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M. & SEIDL, A. 2013. When to Make Proprietary Software Open Source, *Journal of Economic Dynamics and Control*, 37(6), 1182-1194. doi:10.1016/j.jedc.2013.02.009 Available as [Research Report 2011-07](#), ORCOS, TU Wien

CAULKINS, J.P., FEICHTINGER, G., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Long Term Implications of Drug Policy Shifts: Anticipating and Non Anticipating Consumers. *Annual Reviews in Control*, 37(1), 105-115. doi:10.1016/j.arcontrol.2013.03.005. Available as [Research Report 2011-12](#), ORCOS, TU Wien.

F. WIRL, G. FEICHTINGER, P.M.KORT 2013: Individual Firm and Market Dynamics of CSR Activities, *Journal of Economic Behavior & Organization* Vol 86, 169-182. Available as [Research Report 2011-08](#), ORCOS, TU Wien.

G. FEICHTINGER, A. PRSKAWETZ, A. SEIDL, C. SIMON, S. WRZACZEK: Do Egalitarian Societies Boost Fertility?; *Research Report* 2013-05, ORCOS, TU Wien, 2013 ([full text in PDF-Format](#)). In Submission.

CAULKINS, J.P., FEICHTINGER, G., HARTL, R.F., KORT, P.M., NOVAK, A.J. & SEIDL, A. 2013. Multiple Equilibria and Indifference-Threshold Points in a Rational Addiction Model. *Central European Journal of Operations Research*, 21(3), 507-522, DOI: 10.1007/s10100-012-0260-9.

## 2014

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., NOVAK, A., SEIDL, A. & WIRL, F. 2014. A Dynamic Analysis of Schelling's Binary Corruption Model: A Competitive Equilibrium Approach. *Journal of Optimization Theory & Applications*, 161(2), 608-625. doi: 10.1007/s10957-013-0420-7.

MOSER, E., SEIDL, A. & FEICHTINGER, G. 2013. History-Dependence in Production-Pollution-Trade-Off Models: A Multi-Stage Approach. *Annals of Operations Research* (2014) 222:457-481. doi: 10.1007/s10479-013-1349-9

## 2015

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M. & SEIDL, A. 2015. Skiba Points in Free End-time Problems, *Journal of Economic Dynamics and Control*, 51(1), 404-419. doi:10.1016/j.jedc.2014.11.003

M. KUHN, S. WRZACZEK, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER: Optimal choice of health and retirement in a life-cycle model; *Journal of Economic Theory* 158(2015)186-212. DOI: 10.1016/j.jet.2015.04.006

CAULKINS, J.P., FEICHTINGER, G., OUARDIGHI F.: Accelerating Diffusion by Marketing-Operation Efforts. In Submission

J.P. CAULKINS, G. Feichtinger, A. Seidl, D. Grass, R.F. Hartl, P.M. Kort: Capital stock management during a recession that freezes credit markets. *Journal of Economic Behavior & Organization*, 116, 1-14. doi: 10.1016/j.jebo.2015.02.023. Available as Research Report 2013-06, ORCOS, TU Wien, 2013 ([full text in PDF-Format](#)).

STEINDL A, SEIDL A, and G. FEICHTINGER: Degenerated Hopf Bifurcations in a Demographic Diffusion Model. Ludwig Reich 75. A Tribute by Students, Colleagues and Friends. Harald Fripertinger, Wolfgang Prager, Jens Schwaiger, and Jörg Tomaschek (Eds.), Grazer Math.Ber., ISSN 1016-7692, Bericht Nr. 363 (2015), 42-58.

## 2016

SEIDL, A., KAPLAN, E.H., CAULKINS, J.P., WRZACZEK, S. & FEICHTINGER, G. 2016. Optimal Control of a Terror Queue Model, *Europ. Journal of Operations Research* 248(1), 246-256

A. SEIDL, S. WRZACZEK, F. EL OUARDIGHI, G. FEICHTINGER: Optimal Career Strategies and Brain Drain in Academia. *Research Report 2014-05*, ORCOS, TU Wien, 2014 ([full text in PDF-Format](#)) *Journal of Opt. Theory and Appl.* 2016, 168(1)268-295

TEMPLIN, T., SEIDL, A., WICKSTRÖM, B.A., FEICHTINGER, G. 2016. Optimal Language Policy for the Preservation of a Minority Language, *Mathematical Social Sciences*, 81(1), 8-21. doi:10.1016/j.mathsocsci.2016.03.006

H. DAWID, K. DÖRNER, G. FEICHTINGER, P.M. KORT, A. SEIDL (eds.):

\* Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl. in Buchreihe "Dynamic Modeling and Econometrics in Economics and Finance", Buchreihen-Herausgeber: W. Semmler, S. Mitnik; Springer International Publishing, 2016, ISBN: 978-3-319-39118-2, 527 S.

A. NOVAK, G. FEICHTINGER, G. LEITMANN: On the Optimal Trade-Off Between Fire Power and Intelligence in a Lanchester Model; in: *Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl*, Springer International Publishing Switzerland, 2016, ISBN: 978-3-319-39118-2, S. 217 - 231.

E. MOSER, A. FÜRNKRANZ-PRSKAWETZ, G. FEICHTINGER, B. BARAKAT: Maximizing Female Labor Force Participation in a Stationary Population; in: *Dynamic Perspectives on Managerial Decision Making - Essays in Honor of Richard Hartl*, Springer International Publishing Switzerland, 2016, ISBN: 978-3-319-39118-2; S. 167 - 188.

F. EL OUARDIGHI, G. FEICHTINGER, D. GRASS, R.F. HARTL, P. KORT: Autonomous and advertising-dependent 'word of mouth' under costly dynamic pricing; *European Journal of Operational Research*, 251 (2016), S. 860 - 872.

EL OUARDIGHI, F., FEICHTINGER, G., GRASS, D., HARTL, R. F., & KORT, P. M. (2016). Advertising and Quality-Dependent Word-of-Mouth in a Contagion Sales Model. *Journal of Optimization Theory and Applications*, 170 (1), 323-342.

## 2017

WRZACZEK, S., KAPLAN, E.H., CAULKINS, J.P., SEIDL, A. & FEICHTINGER, G. 2017. Differential Terror Queue Games, *Dynamic Games and Applications*, 7(4): 578-593.  
[doi 10.1007/s13235-016-0195-1](https://doi.org/10.1007/s13235-016-0195-1)

CAULKINS, J.P., FEICHTINGER, G., GRASS, D., HARTL, R.F., KORT, P.M., SEIDL, A. 2017. Interaction of Pricing, Advertising and Experience Quality: A Dynamic Analysis. *European Journal of Operational Research*, 256(3), 877-885  
[doi:10.1016/j.ejor.2016.06.056](https://doi.org/10.1016/j.ejor.2016.06.056)

M. SANCHEZ-ROMERO, D. EDIEV, G. FEICHTINGER, A. PRSKAWETZ: How many old people have ever lived? *Demographic Research*, 36(54), 1667-1702.  
[doi: 10.4054/DemRes.2017.36.54](https://doi.org/10.4054/DemRes.2017.36.54)

F. EL OUARDIGHI, G. FEICHTINGER, G. FRUCHTER: Accelerating the diffusion of innovations under mixed word of mouth through marketing-operations interaction. *Annals of Operations Research*, (2017). [doi: 10.1007/s10479-017-2649-2](https://doi.org/10.1007/s10479-017-2649-2)

G. FEICHTINGER et al.: Kontrolltheorie und Differentialspiele in Österreich.  
ÖGOR Arbeitskreis "Optimal Control and Dynamic Games"  
[https://orcoss.tuwien.ac.at/oegor/entwicklungen\\_in\\_der\\_kontrolltheorie/](https://orcoss.tuwien.ac.at/oegor/entwicklungen_in_der_kontrolltheorie/)

G. FEICHTINGER, A. PRSKAWETZ, A. SEIDL, C. SIMON, S. WRZACZEK: A Bifurcation Analysis of Gender Equality and Fertility. *Journal of Evolutionary Economics*, 27 (5), 1221-1243. [doi.org/10.1007/s00191-017-0534-4](https://doi.org/10.1007/s00191-017-0534-4)

## 2018

\* G. FEICHTINGER, R.M. KOVACEVIC, G. TRAGLER: Control Systems and Mathematical Methods in Economics. Essays in Honor of Vladimir M. Veliov. Springer 2018. [doi 10.1007/978-3-319-75169-6](https://doi.org/10.1007/978-3-319-75169-6)

M. KRESS, J.P. CAULKINS, G. FEICHTINGER, D. GRASS, A. SEIDL, (2018). Lanchester model for three-way combat. *European Journal of Operational Research*, 264 (1), 46-54. [doi.org/10.1016/j.ejor.2017.07.026](https://doi.org/10.1016/j.ejor.2017.07.026)

G. FEICHTINGER,, A. PRSKAWETZ, M. SÁNCHEZ-ROMERO, S. WRZACZEK, (2018). Does Demography Change Wealth Inequality? In *Control Systems and Mathematical Methods in Economics*, 687:349-375.  
[doi.org/10.1007/978-3-319-75169-6\\_17](https://doi.org/10.1007/978-3-319-75169-6_17)

## 2019

G. FEICHTINGER, M. WINKLER-DWORAK, D. GRASS: Mathematics of ageing: Linking demography and operations research to study the greying of academia.  
[ORCOS Research Report 2019-03](#).  
CEJOR, <https://doi.org/10.1007/s10100-019-00661-w>

G. FEICHTINGER : Disparitäten in Wissenschaftskarrieren.  
[ORCOS Research Report 2019-06](#). OR News Nr. 65/April 2019, 6-13

Y. YEGOROV, D. GRASS, M. MIRESCU, G. FEICHTINGER, F. WIRL. 2019. Growth and Collapse of Empires: A Dynamic Optimization Model.  
[ORCOS Research Report 2019-02](#). JOTA 186(2), 620-643, August 2020.  
<https://doi.org/10.1007/s10957-020-01719-5>

G. FEICHTINGER, D. GRASS, P.M. KORT: Optimal scientific production over the life cycle. Research Report 2018-09, ORCOS, TU Wien.  
*Journal of Economic Dynamics and Control*, 108 (2019) 103752  
<https://doi.org/10.1016/j.jedc.2019.103752>

## 2020

G. FEICHTINGER, P.M. KORT, D. GRASS, A. SEIDL: On the Matthew Effect in research careers. [ORCOS Res Rep 2020-01](#)  
*Journal of Economic Dynamics and Control*, 2021, 104058  
<https://doi.org/10.1016/j.jedc.2020.104058>

Y. YEGOROV, F. WIRL, D .GRASS, M. EIGRUBER, G. FEICHTINGER: On the Matthew effect on individual investments into skills in arts, sports and science. [ORCOS Res Rep 2020-05](#)  
Submitted to JEBO.

D. GRASS, G. FEICHTINGER, P. M. KORT, A. SEIDL: Why (some) abnormal problems are 'normal' (IIASA-FB), [ORCOS Research Report 2020-06](#)  
*Systems & Control Letters*, 2021, [doi.org/10.1016/j.sysconle.2021.104971](https://doi.org/10.1016/j.sysconle.2021.104971)

A. SEIDL, R.F. HARTL, P. M. KORT, G. FEICHTINGER: Optimal investments with a self-financing constraint.

RÉGIS Y. CHENAVAZ, G. FEICHTINGER, R. F. HARTL, P. M. KORT: Modeling the impact of product quality on dynamic pricing and advertising policies. *European Journal of Operational Research*, 284 (2020) 990-1001,  
<https://doi.org/10.1016/j.ejor.2020.01.035>

A. NOVAK, G. FEICHTINGER: Accumulation and obsolescence of research knowledge.  
[ORCOS Research Report 2020-08](#).  
CJOR, 2021, [DOI 10.1007/s10100-021-00755-4](https://doi.org/10.1007/s10100-021-00755-4)

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, PETER M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: How Long Should the COVID-19 Lockdown Continue? [ORCOS Research Report 2020-10](#)  
*PLoS ONE* 15(2020)12. [DOI: 10.1371/journal.pone.0243413](https://doi.org/10.1371/journal.pone.0243413).

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, PETER M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: The optimal lockdown intensity for COVID-19. [ORCOS Research Report 2020-11](#)  
*Journal of Mathematical Economics*, 2021,  
<https://doi.org/10.1016/j.jmateco.2021.102489>

G. FEICHTINGER, A. NOVAK, F. WIRL: Institutional change, education and population growth: lessons from dynamic modelling. [ORCOS Research Report 2020-14](#).  
In Book *Dynamic Economic Problems with Regime Switches*, 2020, pp 37-56. Editors: Josef L. Haunschmied, Raimund M. Kovacevic, Willi Semmler, Vladimir M. Veliov.  
[Doi 10.1007/978-3-030-54576-5\\_2](https://doi.org/10.1007/978-3-030-54576-5_2)

## 2021

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: COVID-19 and optimal lockdown strategies: The effect of new and more virulent strains. [ORCOS Research Report 2021-01](#), and [ECON WPS - Working Papers in Economic Theory and Policy](#) 02/2021  
In: Boado-Penas M.C., Eisenberg J., Şahin Ş. (eds) *Pandemics: Insurance and Social Protection*, 2021 (pp. 163-190). Springer Actuarial. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-78334-1\\_9](https://doi.org/10.1007/978-3-030-78334-1_9)

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, A. PRSKAWETZ, A. SEIDL, S. WRZACZEK: Schwedischer Weg oder chinesisches Modell?  
*Demographische Forschung Aus Erster Hand*, 18 (2021), 1. Quartal.

J. CAULKINS, D. GRASS, G. FEICHTINGER, R. HARTL, P.M. KORT, M. KUHN, A. PRSKAWETZ, M. SANCHEZ-ROMERO; A. SEIDL, S. WRZACZEK.  
The hammer and the jab: Are COVID-19 lockdowns and vaccinations complements or substitutes?  
Submitted to *EJOR*

## 2022

G. FEICHTINGER, D. GRASS, R. F. HARTL, P. M. KORT, A. SEIDL: The digital economy and advertising diffusion models: critical mass and the stalling equilibrium.  
[submitted]

Y. YEGOROV, F. WIRL, D. GRASS, M. EIGRUBER, G. FEICHTINGER: On the Matthew Effect on Individual Investments in Skills in Arts, Sports and Science. Published in JEBO-D-20-01586R3 <https://doi.org/10.1016/j.jebo.2022.02.008>

G. FEICHTINGER, L. LAMBERTINI, G. LEITMANN, S. WRZACZEK: Managing the tragedy of commons and polluting emissions: A unified view. Published in: The European Journal of Operational Research 303 (2022) 487-499 <https://doi.org/10.1016/j.ejor.2022.02.034>

A. NOVAK, G. FEICHTINGER: Accumulation and Obsolescence of Research Knowledge. Published in: The Central European Journal of Operations Research, Vol 30, December 2022. <https://doi.org/10.1007/s10100-021-00755-4>

## 2023

G. FEICHTINGER, D. GRASS, M. KUHN, K. PETTNER, A. PRSKAWETZ: Resurrecting Economic Growth? Human Capital Accumulation as an Antidote to Depopulation

G. FEICHTINGER, R. RAU, A.J. NOVAK: On the Momentum of Pseudostable Populations Vienna Institute of Demography: Working Papers 01/2023.  
<https://doi.org/10.1553/0x003e187b>: Published in Demographic Research, vol.52, article 15, pp 445 - 478, March 2025 <https://doi.org/10.4054/DemRes.2025.52.15>

G. FEICHTINGER, D. GRASS, P. M. KORT, A.J. NOVAK, A. SEIDL, S. WRZACZEK: How Hartl Exceeds Skiba: Determination of a Successful Career in Academia: Published in The Central European Journal of Operational Research, Oct 2023. DOI:10.1007/s10100-023-00889-7

G. FEICHTINGER, D. GRASS, R.F. HARTL, P.M. KORT, A. SEIDL: The Digital Economy and Advertising Diffusion Models: Critical Mass and the Stalling Equilibrium: The European Journal of Operational Research, Elsevier, vol. 318(3), pages 966-978. DOI: 10.1016/j.ejor.2024.05.043

## 2024

G. FEICHTINGER, S. WRZACZEK: The Optimal Momentum of Population Growth and Decline. Published in Theoretical Population Biology 155: 51 - 66, 8 January 2024. DOI 10.1016/j.tpb.2023.12.002.

G. FEICHTINGER, S. WRZACZEK: The optimal transition to a stationary population for concentrated vitality rates: Published in Demographic Research, Vol.50. Article 6, pp171 - 184, 19 January 2024 <http://www.demographic-research.org/Volumes/Vol50/6/> DOI: 10.4054/DemRes.2024.50.6

T. FENT, S. WRZACZEK, G. FEICHTINGER, A. NOVAK: Fertility decline and age-structure in China and India. VID Working Paper 01/2024, Vienna, Austria.  
Available at: <https://epub.oeaw.ac.at/?arp=0x003f0d14>

S. WRZACZEK, G. FEICHTINGER, T. FENT, A. NOVAK: *To grow or to fluctuate: Optimal paths to demographic equilibria*. IIASA Working Paper. Laxenburg, Austria: WP-24-008.

## 2025

R. NECK, D GRASS, S WRZACZEK, G. FEICHTINGER: Democracy between anarchy and dictatorship: A fragile balance, Preprint 22 January 2025

T. FENT, G. FEICHTINGER, S WRZACZEK, A NOVAK: Stationary-through-immigration Populations: b A model based pivot point of demographic change, preprint 14 February 2025, submitted to Demographic Research

F. EL OUARDIGHI, G. FEICHTINGER, Editors, The Unaffordable Price of Static Decision making Models, Challenges in Economics and Management Science, Springer Press, International Series in Operations Research and Management Science, 11 August 2025, Hardcover ISBN 978-3-031-88637-9; eBook ISBN 978-3-031-88638-6

G. FEICHTINGER, D. GRASS, R.F. HARTL, P.M.KORT, A. SEIDL, S. WRZACZEK: Environmental management of shallow lakes facing a possible catastrophe, 17 February 2025, submitted to Journal of Environmental Economics and Management

G. FEICHTINGER, P.M. KORT, A. SEIDL, F. WIRL, S. WRZACZEK: Dynamic pricing when consumption develops habit and/or satiation: farsighted vs myopic customers.

D. DRAGONE, G. FEICHTINGER, D. GRASS, R. HARTL, P.M. KORT, A. SEIDL, S. WRZACZEK: Obesity, Sedentary Behavior and Lifestyle: A Lifecycle Model of Eating and Physical Activity.

M: SANCHEZ-ROMERO, T. SOBOTKA, G. FEICHTINGER, A. PRSKAWETZ, S. WRZACZEK: Future Births: A Formal Perspective on Humanity's Yet-to-Be-Born Generations.

J. P. CAULKINS, D. GRASS, G. M. CAMPEDELLI, G. FEICHTINGER, R. PRIETO-CURIEL, G. TRAGLER, S. WRZACZEK: Narrow corridors and weak Skiba curves: Finding multiple equilibria amidst lethal cartel violence.

R. PRIETO-CURIEL, D. GRASS, S. WRZACZEK, G. M. CAMPEDELLI, G. TRAGLER, G. FEICHTINGER: Reducing cartel violence: The Mexican dilemma between social and security spending.